

FILE 'REGISTRY' ENTERED AT 13:17:27 ON 13 MAR 2003

L1 0 S C11N2H18/MF
L2 748 S C11H18N2/MF
L3 274 S L2 AND ETHYL
L4 70 S L2 AND DIETHYL
L5 274 S L3 OR L4
L6 17 S L5 AND TOLUENE
L7 70 S L4 NOT BUTYL

FILE 'CAPLUS' ENTERED AT 13:22:55 ON 13 MAR 2003

L8 3 S US6127505/PN

FILE 'REGISTRY' ENTERED AT 13:25:04 ON 13 MAR 2003

L9 1 S 261361-07-3
L10 51 S L5 AND BENZENEDIAMINE
L11 47 S L10 AND METHYL
L12 42 S L11 NOT BUTYL
L13 40 S L12 NOT PROPYL

FILE 'CAPLUS' ENTERED AT 13:44:02 ON 13 MAR 2003

S 261361-07-3/REG# OR 2095-01-4/REG# OR 2095-02-5/REG#

FILE 'REGISTRY' ENTERED AT 13:45:42 ON 13 MAR 2003

14 1 S 2095-02-5/RN

FILE 'CAPLUS' ENTERED AT 13:45:43 ON 13 MAR 2003

L15 105 S L14

FILE 'REGISTRY' ENTERED AT 13:45:44 ON 13 MAR 2003

L16 1 S 2095-01-4/RN

FILE 'CAPLUS' ENTERED AT 13:45:44 ON 13 MAR 2003

L17 80 S L16

FILE 'REGISTRY' ENTERED AT 13:45:45 ON 13 MAR 2003

L18 1 S 261361-07-3/RN

FILE 'CAPLUS' ENTERED AT 13:45:45 ON 13 MAR 2003

L19 2 S L18
L20 112 S L19 OR L17 OR L15
L21 107341 S ?ISOCYANATE?
L22 69 S L20 AND L21
L23 67208 S ?TRIOL? OR ?TRIMETHYLOL?
L24 26 S L22 AND L23

FILE 'DPCI' ENTERED AT 13:50:11 ON 13 MAR 2003

L25 1 S US6127505/PN

=>

L24 ANSWER 1 OF 26 CAPLUS COPYRIGHT 2003 ACS

AN 2002:387614 CAPLUS

DN 136:387193

TI Polyurethane composition for golf ball cores with improved durability and resilience

IN Wu, Shenshen

PA Acushnet Company, USA

SO U.S., 8 pp., Cont.-in-part of U.S. 6,210,294.

CODEN: USXXAM

DT Patent

LA English

IC ICM C08G018-76

ICS C08G018-48; A63B037-12

NCL 528076000

CC 38-3 (Plastics Fabrication and Uses)

FAN.CNT 29

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|---------------|------|----------|-----------------|----------|
| PI | US 6392002 | B1 | 20020521 | US 1999-453960 | 19991203 |
| | GB 2353719 | A1 | 20010307 | GB 2000-24871 | 19990413 |
| | JP 2002511324 | T2 | 20020416 | JP 2000-543211 | 19990413 |
| | US 6210294 | B1 | 20010403 | US 1999-311591 | 19990514 |
| | GB 2353724 | A1 | 20010307 | GB 2000-28549 | 19990525 |
| | JP 2002516164 | T2 | 20020604 | JP 2000-550564 | 19990525 |
| | WO 2001040344 | A1 | 20010607 | WO 2000-US29621 | 20001027 |

W: AU, CA, GB, JP, NZ

RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

PRAI US 1999-311591 A2 19990514
US 1998-60103 A 19980414
US 1998-86263 A 19980528
WO 1999-US8080 W 19990413
WO 1999-US11508 W 19990525
US 1999-453960 A 19991203

AB A golf ball comprising a center, a cover, and optionally, at least one intermediate layer disposed between the center and the cover, wherein at least one of the center, the cover, and the at least one intermediate layer is formed with a polyurethane compn. comprising a reaction product of a prepolymer of at least one polyol and at least one **polyisocyanate**, and at least one curing agent. Thus, a golf ball with good phys. properties was manufd. from a polyurethane compn. comprising Ethacure 300 (a mixt. of 2,4-toluenediamine and 3,5-dimethylthio-2,4-toluenediamine), MDI, polytetramethylene ether glycol, and HCC 19584 (color dispersion).

ST polyurethane compn golf ball core

IT Polyoxyalkylenes, uses

RL: TEM (Technical or engineered material use); USES (Uses)
(curing agent; manuf. of polyurethane compn. for golf ball cores)

IT Polyethers, uses

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(hydroxy-contg.; manuf. of urethane compn. for golf ball cores)

IT Polycarbonates, uses

Polyesters, uses
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(hydroxy-terminated; manuf. of urethane compn. for golf ball cores)

IT Crosslinking agents

Golf balls
(manuf. of urethane compn. for golf ball cores)

IT Polyurethanes, uses

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manuf. of urethane compn. for golf ball cores)

IT Polyoxyalkylenes, uses

RL: TEM (Technical or engineered material use); USES (Uses)
(polyether polyol; manuf. of polyurethane compn. for golf ball cores)

IT Polyurethanes, uses
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyoxyalkylene-polyurea-, block; manuf. of urethane compn. for golf ball cores)

IT 101-14-4, 4,4'-Methylene-bis-(2-chloroaniline) 101-96-2,
1,4-Bis-(sec-butylamino)-benzene 2095-01-4, 3,5-Diethyltoluene-2,6-diamine 2095-02-5, 3,5-Diethyltoluene-2,4-diamine 5285-60-9, 4,4'-Bis-(sec-butylamino)-diphenylmethane 54667-43-5, Polytetramethyleneoxide-di-p-aminobenzoate 57609-64-0, Trimethylene glycol-di-p-aminobenzoate 102093-68-5, 3,5-Dimethylthio-2,4-toluenediamine 104983-85-9, 3,5-Dimethylthio-2,6-toluenediamine 106246-33-7, 4,4'-Methylene-bis-(3-chloro-2,6-diethylaniline)
RL: MOA (Modifier or additive use); USES (Uses)
(amine curing agent; manuf. of polyurethane compn. for golf ball cores)

IT 102-40-9, 1,3-Bis(2-hydroxyethoxy)benzene 104-38-1 107-21-1, Ethylene glycol, uses 111-46-6, Diethylene glycol, uses 134252-95-2, 1,3-Bis-[2-(2-hydroxyethoxy)ethoxy]benzene 203938-43-6, 1,3-Bis-[2-[2-(2-hydroxyethoxy)ethoxy]ethoxy]benzene
RL: MOA (Modifier or additive use); USES (Uses)
(curing agent; manuf. of polyurethane compn. for golf ball cores)

IT 25322-68-3, Polyethylene glycol
RL: TEM (Technical or engineered material use); USES (Uses)
(curing agent; manuf. of polyurethane compn. for golf ball cores)

IT 426259-41-8P, Ethacure 300-MDI-polytetramethylene ether glycol block copolymer 426259-42-9P, Ethacure 300-p-phenylene diisocyanate -polytetramethylene ether glycol block copolymer
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manuf. of polyurethane compn. for golf ball cores)

IT 50327-24-7 50974-93-1 54511-70-5 54735-63-6 59692-51-2, Caprolactone homopolymer, diester with neopentyl glycol, sru 67339-83-7, 1,6-Hexanediol-initiated polycaprolactone 68136-45-8, Trimethylol propane-initiated polycaprolactone 75035-33-5, Diethylene glycol-initiated polycaprolactone 123009-31-4, 1,4-Butanediol-initiated polycaprolactone 148195-47-5, Caprolactone homopolymer, diester with neopentyl glycol 426259-43-0, Polycaprolactone diester with polytetramethylene ether glycol
RL: TEM (Technical or engineered material use); USES (Uses)
(manuf. of polyurethane compn. for golf ball cores)

IT 24936-97-8 24937-05-1 24938-37-2 25103-87-1, Polybutylene adipate glycol copolymer 26523-14-8, Polyethylene propylene adipate glycol 27516-71-8, o-Phthalic acid-1,6-hexanediol copolymer 28725-71-5
RL: TEM (Technical or engineered material use); USES (Uses)
(polyester polyol; manuf. of polyurethane compn. for golf ball cores)

IT 25190-06-1, Polytetramethylene ether glycol
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(polyether polyol; manuf. of polyurethane compn. for golf ball cores)

IT 9003-11-6 25322-69-4, Poly(oxypropylene)glycol
RL: TEM (Technical or engineered material use); USES (Uses)
(polyether polyol; manuf. of polyurethane compn. for golf ball cores)

IT 161015-03-8, Caprolactone-THF block copolymer
RL: TEM (Technical or engineered material use); USES (Uses)
(triblock; manuf. of polyurethane compn. for golf ball cores)

RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Anon; JP 270723 1988
- (2) Anon; JP 08170235 1996 CAPLUS
- (3) Anon; JP 08187798 1996 CAPLUS
- (4) Anon; WO 9602584 1996 CAPLUS
- (5) Anon; WO 43713 1998 CAPLUS
- (6) Anon; WO 9837929 1998 CAPLUS

- (7) Blenner; US 4738999 A 1988 CAPLUS
- (8) Brown; US 5006297 A 1991
- (9) Calabria; US 5733428 A 1998
- (10) Calabria; US 5888437 A 1999
- (11) Dewanjee; US 6117024 A 2000
- (12) Durairaj, R; Cast Polyurethanes From Resorcinol-Based Aromatic Diols 1998
- (13) Durairaj, R; HER Materials For Polyurethane Applications 1999
- (14) Hamada; US 5543467 A 1996 CAPLUS
- (15) Hamada; US 5565524 A 1996 CAPLUS
- (16) Holloway; US 4349657 A 1982 CAPLUS
- (17) Kato; US 5625003 A 1997 CAPLUS
- (18) Kawamoto; US 4968752 A 1990 CAPLUS
- (19) Kawasaki; US 5021534 A 1991 CAPLUS
- (20) Magerman; US 5575472 A 1996
- (21) Miyashita; US 4914152 A 1990 CAPLUS
- (22) Murakami; US 4499239 A 1985 CAPLUS
- (23) Saito; US 4858924 A 1989
- (24) Sullivan; US 5902855 A 1999
- (25) Suzuki; US 3642703 A 1972 CAPLUS
- (26) Wu; US 5334673 A 1994
- (27) Wu; US 5484870 A 1996 CAPLUS
- (28) Wu; US 5692974 A 1997
- (29) Wu; US 5908358 A 1999 CAPLUS

L24 ANSWER 2 OF 26 CAPLUS COPYRIGHT 2003 ACS

AN 2000:151511 CAPLUS

DN 132:195701

TI Polyoxyalkylene-containing polyurethane-polyureas for synthetic leather and elastic fibers and their manufacture

IN Saito, Joichi; Kashiwame, Kiyoteru

PA Asahi Glass Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08G018-48

ICS D01F006-70; D06N003-14

CC 39-4 (Synthetic Elastomers and Natural Rubber)

Section cross-reference(s): 40

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|----------|
| PI | JP 2000072840 | A2 | 20000307 | JP 1998-246105 | 19980831 |
| PRAI | JP 1998-246105 | | 19980831 | | |

AB The polyurethane-polyureas are manufd. from (1) **isocyanate**-terminated prepolymers obtained by reaction of polymers having .gtoreq.2 active H-contg. groups and **polyisocyanates** and (2) chain extenders, where at least a part of the active H-contg. polymers is polyoxyalkylene polyols having ring-opened propylene oxide units and the chain extenders contain arom. diamines. Polyoxypropylene diol-initiated polypropylene glycol 245, polyoxypropylene **triol**-initiated polypropylene glycol 202, polyoxytetramethylene diol 446, and MDI 107 g were polymd., dissolved in AcNMe₂, further treated with 0.47 g m-xylenediamine and 0.12 g Et₂NH, dried, and aged for 10 days to give a film, showing 100% modulus 15 kg/cm², breaking strength 240 kg/cm², and recovery ratio 94%.

ST polyoxyalkylene polyurethane polyurea rubber prepn; leather substitute polyoxypropylene polyurethane polyurea rubber; elastomeric fiber polyoxyalkylene polyurethane polyurea

IT Leather substitutes

(manuf. of polyoxyalkylene-contg. polyurethane-polyureas with low elastic modulus and high recovery ratio for synthetic leather and elastomeric fibers)

IT Polyoxyalkylenes, preparation

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polyol derivs., polymers with MDI, polyoxytetramethylene, and

- diamines, rubber; manuf. of polyoxyalkylene-contg. polyurethane-polyureas with low elastic modulus and high recovery ratio for synthetic leather and elastomeric fibers)
- IT Urethane rubber, preparation
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyoxyalkylene-polyurea-; manuf. of polyoxyalkylene-contg. polyurethane-polyureas with low elastic modulus and high recovery ratio for synthetic leather and elastomeric fibers)
- IT Spandex fibers
RL: PNU (Preparation, unclassified); PREP (Preparation)
(polyoxyalkylene-polyurea-; manuf. of polyoxyalkylene-contg. polyurethane-polyureas with low elastic modulus and high recovery ratio for synthetic leather and elastomeric fibers)
- IT Polymerization catalysts
(ring-opening; manuf. of polyoxyalkylene-contg. polyurethane-polyureas with low elastic modulus and high recovery ratio for synthetic leather and elastomeric fibers)
- IT 14049-79-7, Zinc hexacyanocobaltate
RL: CAT (Catalyst use); USES (Uses)
(catalyst for ring-opening polymn. of propylene oxide; manuf. of polyoxyalkylene-contg. polyurethane-polyureas with low elastic modulus and high recovery ratio for synthetic leather and elastomeric fibers)
- IT 101-68-8DP, 4,4'-**Diphenylmethanediisocyanate**, polymers with polyoxypropylene polyols, polyoxytetramethylene, and diamines 838-88-ODP, 3,3'-Dimethyl-4,4'-diaminodiphenylmethane, polymers with polyoxypropylene polyols, polyoxytetramethylene, and MDI 1477-55-ODP, 1,3-Benzenedimethanamine, polymers with polyoxypropylene polyols, polyoxytetramethylene, and MDI **2095-01-4DP**, 3,5-Diethyl-2,6-diaminotoluene, polymers with polyoxypropylene polyols, polyoxytetramethylene, and MDI **2095-02-5DP**, 3,5-Diethyl-2,4-diaminotoluene, polymers with polyoxypropylene polyols, polyoxytetramethylene, and MDI 9003-11-6DP, Ethylene oxide-propylene oxide copolymer, polyol derivs., polymers with MDI, polyoxytetramethylene, and diamines 25190-06-1DP, Polyoxytetramethylene, polymers with polyoxypropylene polyols, MDI, and diamines 25322-69-4DP, Polypropylene glycol, polyol derivs., polymers with MDI, polyoxytetramethylene, and diamines 106392-12-5DP, Ethylene oxide-propylene oxide block copolymer, polyol derivs., polymers with MDI, polyoxytetramethylene, and diamines
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(rubber; manuf. of polyoxyalkylene-contg. polyurethane-polyureas with low elastic modulus and high recovery ratio for synthetic leather and elastomeric fibers)

L24 ANSWER 3 OF 26 CAPLUS COPYRIGHT 2003 ACS

AN 1999:199730 CAPLUS

DN 130:268586

TI Polyurethane-based waterproof coatings and fluoropolymer-polyurethane topcoats

IN Takayanagi, Keishi; Matsumoto, Sachio; Uchino, Bunji

PA Asahi Glass Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM B32B027-40

ICS C09D175-04; E04D007-00

CC 42-10 (Coatings, Inks, and Related Products)

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|----------|
| PI | JP 11077940 | A2 | 19990323 | JP 1997-252461 | 19970917 |
| PRAI | JP 1997-252461 | | 19970917 | | |

AB The title coatings, with good surface tack, interfacial adhesion, and weather resistance, comprise (a) waterproof coatings comprising **isocyanate**-terminated polyurethane prepolymers (e.g.,

- polyoxypropylenediol-polyoxypropylenetriol-TDI copolymer) and diethyltoluenediamine-contg. hardeners (e.g., mixt. of 3,5-diethyltoluene-2,4-diamine and 3,5-diethyltoluene-2,6-diamine contg. DOP) and (b) protective layers comprising isocyanate-terminated polyurethane prepolymers (e.g., polytetramethylene glycol-XDI copolymer) and OH-contg. fluoropolymer hardeners (e.g., Et vinyl ether-hydroxybutyl vinyl ether-tetrafluoroethylene copolymer).
- ST polyurethane waterproof coating fluoropolymer contg topcoat; surface tack polyurethane waterproof coating fluoropolymer topcoat; interfacial adhesion polyurethane waterproof coating fluoropolymer topcoat; weather resistance polyurethane waterproof coating fluoropolymer topcoat
- IT Adhesion, physical
(interfacial; polyurethane-based waterproof coatings and fluoropolymer-polyurethane topcoats)
- IT Crosslinking agents
(polyurethane-based waterproof coatings and fluoropolymer-polyurethane topcoats)
- IT Coating materials
(topcoats; polyurethane-based waterproof coatings and fluoropolymer-polyurethane topcoats)
- IT Polyoxyalkylenes, uses
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(triol derivs, polymers with ppg and TDI, waterproof coatings; polyurethane-based waterproof coatings and fluoropolymer-polyurethane topcoats)
- IT Polyurethanes, uses
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(waterproof coatings; polyurethane-based waterproof coatings and fluoropolymer-polyurethane topcoats)
- IT Coating materials
(weather-resistant; polyurethane-based waterproof coatings and fluoropolymer-polyurethane topcoats)
- IT 117-81-7, DOP
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(plasticizers, waterproof coating hardeners contg.; polyurethane-based waterproof coatings and fluoropolymer-polyurethane topcoats)
- IT 26916-03-0, Butyl acrylate-2-hydroxyethyl methacrylate-styrene copolymer
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(protective topcoat hardeners contg.; polyurethane-based waterproof coatings and fluoropolymer-polyurethane topcoats)
- IT 91280-54-5, Butanol, (ethenyloxy)-, polymer with ethoxyethene and tetrafluoroethene 119008-26-3, Chlorotrifluoroethylene-ethyl vinyl ether-hydroxybutyl vinyl ether copolymer
RL: PRP (Properties); RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)
(protective topcoat hardeners; polyurethane-based waterproof coatings and fluoropolymer-polyurethane topcoats)
- IT 9069-50-5, Polytetramethylene glycol-TDI copolymer 54763-46-1, Polytetramethylene glycol-xylylene diisocyanate copolymer
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(protective topcoats; polyurethane-based waterproof coatings and fluoropolymer-polyurethane topcoats)
- IT 2095-01-4, 3,5-Diethyltoluene-2,6-diamine 2095-02-5, 3,5-Diethyltoluene-2,4-diamine 26471-62-5D, TDI, polymers with ppg and triol derivs
RL: PRP (Properties); RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)
(waterproof coating hardeners; polyurethane-based waterproof coatings and fluoropolymer-polyurethane topcoats)
- IT 25322-69-4D, triol derivs, polymers with ppg and TDI
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(waterproof coatings; polyurethane-based waterproof coatings and
fluoropolymer-polyurethane topcoats)

L24 ANSWER 4 OF 26 CAPLUS COPYRIGHT 2003 ACS

AN 1998:493334 CAPLUS

DN 129:176773

TI Low-temperature curable two-component polyurethane rubber compositions

IN Matsumoto, Sachio; Kamemura, Ichiro; Saito, Joichi; Sasaki, Koichi

PA Asahi Glass Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08G018-32

ICS C08G018-10; C08G018-48; C08G018-50; C09K003-10

CC 39-9 (Synthetic Elastomers and Natural Rubber)

Section cross-reference(s): 58

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|-----------------|----------|
| PI | JP 10195163 | A2 | 19980728 | JP 1997-172474 | 19970627 |
| PRAI | JP 1996-303345 | | 19961114 | | |
| AB | The compns., useful for building materials such as waterproof materials, floorings, sealants and elastic paving materials, comprise (A) isocyanate -terminated polyurethanes prepolymer obtained from polyoxyalkylene polyol-based polyols and polyisocyanates and (B) curing agents contg. 4,4'-diaminodiphenylmethanes substituted with alkyls on their arom. rings, diethyltoluenediamine and amine polyols which have hydroxy functionality 3-4 and are prepd. from amines and alkylene oxides. Thus, a mixt. of 15.6 parts Kayabond C 300 (3,3'-diethyl-4,4'-diaminodiphenylmethane) and 140.4 parts dioctyl phthalate was mixed with 40.4, diethyltoluenediamine 11.9, polyoxypropylene triol (prepd. from monoethanolamine and propylene oxide) 11.1, dioctyl phthalate 201.4, CaCO ₃ 600, TiO ₂ 50 and carbon black 10 parts to give a crosslinking agent, which blended with an urethane prepolymer (prepd. from 2,4-TDI, polyoxypropylene diol and trio at NCO/OH 1.95) and cured, showing curing time (5.degree.) 8 min, tensile strength kg/cm ² and elongation 720%. | | | | |
| ST | urethane rubber two component ambient curable; polyoxyalkylene polyol polyisocyanate polyurethane building material; diaminodiphenylmethane diethyltoluenediamine amine polyol urethane rubber; waterproof flooring sealant paving material polyurethane | | | | |
| IT | Polyoxyalkylenes, preparation RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (diol and triol derivs. polymers with TDI, diaminodiphenylmethanes, diethyltoluene diamine and amine polyols, rubber; low-temp. curable two-component polyurethane rubber compns.) | | | | |
| IT | Paving materials (elastic; low-temp. curable two-component polyurethane rubber compns. for) | | | | |
| IT | Construction materials Floor coverings Sealing compositions Water-resistant materials (low-temp. curable two-component polyurethane rubber compns. for) | | | | |
| IT | Urethane rubber, preparation RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (polyoxyalkylene-polyurea-; low-temp. curable two-component polyurethane rubber compns.) | | | | |
| IT | 115-77-5DP, Pentaerythritol, polymers with propylene oxide, TDI, polyoxypropylene polyols, diaminodiphenylmethanes and diethyltoluene diamine RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (low-temp. curable two-component polyurethane rubber compns.) | | | | |
| IT | 62-53-3DP, Aniline, polymers with propylene oxide, TDI, polyoxypropylene | | | | |

polyols, diaminodiphenylmethanes and diethyltoluene diamine 75-56-9DP,
 Propylene oxide, polymers with amines, TDI, polyoxypropylene polyols,
 diaminodiphenylmethanes and diethyltoluene diamine 107-15-3DP,
 Ethylenediamine, polymers with propylene oxide, TDI, polyoxypropylene
 polyols, diaminodiphenylmethanes and diethyltoluene diamine 141-43-5DP,
 Monoethanolamine, polymers with propylene oxide, TDI, polyoxypropylene
 polyols, diaminodiphenylmethanes and diethyltoluene diamine 584-84-9DP,
 2,4-TDI, polymers with polyoxypropylene polyols, diaminodiphenylmethanes,
 diethyltoluene diamine and amine polyols 2095-01-4DP,
 3,5-Diethyltoluene-2,6-diamine, polymers with TDI, polyoxypropylene
 polyols, diaminodiphenylmethanes and amine polyols 2095-02-5DP,
 3,5-Diethyltoluene-2,4-diamine, polymers with TDI, polyoxypropylene
 polyols, diaminodiphenylmethanes and amine polyols 13680-35-8DP,
 Kayabond C 300, polymers with TDI, polyoxypropylene polyols,
 diethyltoluene diamine and amine polyols 19900-65-3DP, Kayahard AA,
 polymers with TDI, polyoxypropylene polyols, diethyltoluene diamine and
 amine polyols 25322-69-4DP, Polypropylene oxide, diol and triol
 derivs. polymers with TDI, diaminodiphenylmethanes, diethyltoluene diamine
 and amine polyols
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material
 use); PREP (Preparation); USES (Uses)
 (rubber; low-temp. curable two-component polyurethane rubber compns.)

L24 ANSWER 5 OF 26 CAPLUS COPYRIGHT 2003 ACS

AN 1998:227346 CAPLUS

DN 128:295915

TI Two-component curable polyurethane elastomer compositions with good
 curability at low temperatures

IN Matsumoto, Sachio; Saito, Joichi; Kamemura, Ichiro

PA Asahi Glass Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08G018-32

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 39

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|----------|
| PI | JP 10095826 | A2 | 19980414 | JP 1996-255034 | 19960926 |
| PRAI | JP 1996-255034 | | 19960926 | | |

AB Title compns., useful for waterproof and floor materials, are composed of
 (A) main agent components contg. **isocyanate**-terminated
 polyurethane prepolymers (prepd. by treating **polyisocyanates**
 with polyoxyalkylene polyol-based polyols) and (B) curing agent components
 only contg. (a) 4,4'-methylenedianiline (I) whose either o-position
 against each amino group is alkyl-substituted, (b) I whose both
 o-positions against each amino group are alkyl-substituted, and (c)
 diethyltoluenediamine as active-H compds. Thus, (A) a main agent
 component contg. polyurethane prepolymer [prepd. from polyoxypropylene
 diol (mol. wt. 2000) 800, polyoxypropylene **triol** (mol. wt. 4000)
 200, and 2,4-TDI 165 g] and (B) a curing agent component contg. Kayahard
 AA 21.4, Kayabond C 300 7.8, 3,5-diethyltoluene-2,4-diamine/3,5-
 diethyltoluene-2,6-diamine mixt. 10.5, DOP 300.3, CaCO₃ 600, TiO₂ 50, and
 carbon black 10 g, were mixed at the (A)/(B) wt. ratio 1/2 to give a
 waterproof material, which showed good curability at low temp. and
 sufficient pot life and gave a coating film with high elongation and
 tensile and tear strength.

ST two component curable polyurethane elastomer crosslinking; arom polyamine
 mixt crosslinking agent polyurethane; waterproof floor coating
 polyurethane crosslinked elastomer

IT Crosslinking agents

(arom. polyamine mixts.; two-component curable polyurethane compns.
 with good curability at low temps. and sufficient pot life for
 waterproof and floor materials)

IT Amines, uses

Amines, uses

RL: MOA (Modifier or additive use); USES (Uses)

(polyamines, nonpolymeric, arom., crosslinking agent; two-component curable polyurethane compns. with good curability at low temps. and sufficient pot life for waterproof and floor materials)

IT Polyoxyalkylenes, uses

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polyol derivs., polymers with TDI and polyamines, crosslinked, rubber; two-component curable polyurethane compns. with good curability at low temps. and sufficient pot life for waterproof and floor materials)

IT Urethane rubber, uses

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polyoxyalkylene-polyurea-, crosslinked; two-component curable polyurethane elastomer compns. with good curability at low temp. for waterproof and floor coatings)

IT Floors

(two-component curable polyurethane compns. with good curability at low temps. and sufficient pot life for waterproof and floor materials)

IT Coating materials

(water-resistant; two-component curable polyurethane compns. with good curability at low temps. and sufficient pot life for waterproof and floor materials)

IT 584-84-9DP, 2,4-TDI, polymers with polyols and polyamines

2095-01-4DP, 3,5-Diethyltoluene-2,6-diamine, polymers with polyurethanes **2095-02-5DP**, 3,5-Diethyltoluene-2,4-diamine, polymers with polyurethanes 13680-35-8DP, Kayabond C 300, polymers with polyurethanes 19900-65-3DP, Kayahard AA, polymers with polyurethanes 25322-69-4DP, Polypropylene glycol, polyol derivs., polymers with TDI and polyamines

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(crosslinked, rubber; two-component curable polyurethane compns. with good curability at low temps. and sufficient pot life for waterproof and floor materials)

L24 ANSWER 6 OF 26 CAPLUS COPYRIGHT 2003 ACS

AN 1996:132865 CAPLUS

DN 124:148115

TI Elimination of amines in preparation of hydroxy-containing compounds from polyurea and polyurea-polyurethane wastes

IN Muenzmay, Thomas; Rasshofen, Werner; Meckel, Walter

PA Bayer A.-G., Germany

SO Eur. Pat. Appl., 5 pp.

CODEN: EPXXDW

DT Patent

LA German

IC ICM C08J011-24

CC 38-1 (Plastics Fabrication and Uses)

Section cross-reference(s): 35

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|-----------------------|------|----------|-----------------|----------|
| PI | EP 688815 | A1 | 19951227 | EP 1995-108891 | 19950609 |
| | EP 688815 | B1 | 19990203 | | |
| | R: DE, ES, FR, GB, IT | | | | |
| | DE 4421902 | A1 | 19960104 | DE 1994-4421902 | 19940623 |
| | ES 2128612 | T3 | 19990516 | ES 1995-108891 | 19950609 |
| | US 5635542 | A | 19970603 | US 1995-492206 | 19950616 |
| | CA 2152304 | AA | 19951224 | CA 1995-2152304 | 19950621 |
| | JP 08053372 | A2 | 19960227 | JP 1995-176878 | 19950621 |
| PRAI | DE 1994-4421902 | | 19940623 | | |

AB In the prepn. of OH-contg. compds. by heating polyurea and polyurea-polyurethane wastes with polyols (e.g., diethylene glycol) at 160-260.degree. (preferably with removal of water by distn.), the formation of low-mol.-wt., sterically unhindered, primary arom. amines is

reduced or eliminated by adding a 1,3-dicarbonyl compd. (e.g., Et acetoacetate) before or during the alcoholysis reaction. The OH-contg. compds. are useful for reaction with **polyisocyanates**.

ST polyurethane polyurea recycling alcoholysis amine elimination; diketone amine elimination polyurea polyurethane alcoholysis; acetoacetate amine elimination alcoholysis polyurea polyurethane

IT Alcoholysis
(addn. of diketone for amine elimination in recycling of polyurea and polyurea-polyurethane wastes by)

IT Recycling of plastics and rubbers
(addn. of diketone for amine elimination in recycling of polyurea-polyurethane wastes by alcoholysis)

IT Polyureas
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(wastes; alcoholysis in presence of Et acetoacetate for amine elimination in recycling of)

IT Urethane polymers, processes
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(polyurea-, wastes; alcoholysis in presence of Et acetoacetate for amine elimination in recycling of)

IT 141-97-9, Ethyl acetoacetate
RL: MOA (Modifier or additive use); USES (Uses)
(additive for amine elimination in recycling of polyurea-polyurethane wastes by alcoholysis)

IT 111-46-6, Diethylene glycol, processes
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(alcoholysis with polyurea-polyurethane wastes in presence of Et acetoacetate for amine elimination in recycling process)

IT 101-68-8D, MDI, derivs., polymers with diamines and diols
2095-01-4D, 2,6-Diamino-3,5-diethyltoluene, polymers with diamines, **diisocyanates**, and diols **2095-02-5D**, 2,4-Diamino-3,5-diethyltoluene, polymers with diamines, **diisocyanates**, and diols 52624-57-4D, Ethylene oxide-propylene oxide copolymer **trimethylolpropane** ether, polymers with **diisocyanates** and diamines
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(wastes; alcoholysis in presence of Et acetoacetate for amine elimination in recycling of)

L24 ANSWER 7 OF 26 CAPLUS COPYRIGHT 2003 ACS

AN 1994:606898 CAPLUS

DN 121:206898

TI **Isocyanate**-reactive compositions for preparation of storage-stable flame-retardant polyurethane foam-forming systems

IN Clatty, Jan L. R.; Wellman, Michael T.; Madan, Sanjeev

PA Miles Inc., USA

SO U.S., 18 pp.

CODEN: USXXAM

DT Patent

LA English

IC ICM C09K003-00

NCL 252006500

CC 37-6 (Plastics Manufacture and Processing)

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|----------|
| PI | US 5302303 | A | 19940412 | US 1993-111099 | 19930824 |
| | US 5374486 | A | 19941220 | US 1994-182993 | 19940114 |
| | CA 2128141 | AA | 19950225 | CA 1994-2128141 | 19940715 |
| | US 5401824 | A | 19950328 | US 1994-301741 | 19940906 |
| PRAI | US 1993-111099 | | 19930824 | | |
| | US 1994-182993 | | 19940114 | | |

AB This invention relates to **isocyanate**-reactive compns. contg. flame retardants and certain tertiary amines or ammonium compds., which stabilized compns. polyurethane-forming compns. prepd. from these **isocyanate**-reactive compns. These latter compns. are prepd. by by

mixing (a) at least one **isocyanate**-reactive compd. having a mol. wt. of 400 to 10,000 and a functionality of 2 to 7; (b) at least one **isocyanate**-reactive compd. having a mol. wt. of less than 399 and a functionality of 2 to 6; (c) at least one (i) **isocyanate**-reactive tertiary amine polyether, (ii) fatty amido-amine, and/or (iii) ammonium salt deriv. of a fatty amido-amine; (d) a flame retardant; (e) a catalyst; and (f) optional additives. This invention also relates to urethane-based products prepd. by reaction of org. **polyisocyanates** with such compns. A typical foam-forming compn. was prepd. from 141 parts **polyisocyanate** and 100 parts compn. contained 20 parts polyether prepd. by sequential reaction of glycerol and propylene glycol (I) with propylene oxide, ethylene glycol-I mixt, and I, and capped with I, 20 parts adipic acid-neopentyl glycol copolymer, 50 parts polypropoxylated glycerol, 20 parts, di-Et N,N-bis(2-hydroxyethyl)aminomethylphosphonate, 3 parts surfactant, 9.5 parts mold release, 1.5 parts blowing agent, 6 parts salt formed from tall-oil fatty acid and an amide from tall-oil fatty acid and 3-(dimethylamino)propylamine, 20 parts di-Me methylphosphonate, 2.9 parts catalyst, 2 parts water scavenger, and 0.2 parts water.

ST storage stable **isocyanate** reactive compn; foam polyurethane fire resistant; neopentyl glycol polyester polyurethane fireproofing agent; adipic polyester polyurethane fireproofing agent; glycerol polyoxyalkylene polyurethane fireproofing agent; dimethylaminopropylamide fatty acid salt storage stabilizer; tall fatty ammonium salt storage stabilizer; polyoxyalkylene polyester polyurethane fireproofing agent; phosphonate contg polyol compn storage stable; ammonium salt storage stabilizer polyol compn; tertiary amine storage stabilizer polyol compn

IT Urethane polymers, preparation
 RL: PREP (Preparation)
 (manuf. of cellular, fireproofing agent-contg. compns. for, storage stabilizers for)

IT Crosslinking agents
 (polyurethane-foam-forming compns. contg., fire-resistant, storage stabilizers for)

IT Polyesters, miscellaneous
 Polyoxyalkylenes, miscellaneous
 RL: MSC (Miscellaneous)
 (polyurethane-foam-forming compns. contg., fire-resistant, storage stabilizers for)

IT Fireproofing agents
 Polymerization catalysts
 (polyurethane-foam-forming compns. contg., storage stabilizers for)

IT Stabilizing agents
 (storage, tertiary amines and ammonium compds., for polyurethane-foam-forming compns. contg. fireproofing agents)

IT Amides, uses
 RL: USES (Uses)
 (coco, N-[(dimethylamino)propyl], storage stabilizers, for polyurethane-foam-forming compns. contg. fireproofing agents)

IT Polyphosphoric acids
 RL: MSC (Miscellaneous)
 (esters, polyurethane-foam-forming compns. contg., fire-resistant, storage stabilizers for)

IT Amines, miscellaneous
 RL: MSC (Miscellaneous)
 (polyoxyalkylenedi-, polyurethane-foam-forming compns. contg., fire-resistant, storage stabilizers for)

IT Fatty acids, uses
 RL: USES (Uses)
 (tall-oil, salts, with tall-oil fatty amide of (dimethylamino)propylamine, for storage stabilizers, for polyurethane-foam-forming compns. contg. fireproofing agents)

IT Amines, uses
 RL: USES (Uses)
 (tertiary, storage stabilizers, for polyurethane-foam-forming compns. contg. fireproofing agents)

IT 1185-81-5, Dibutyltin bis(dodecyl mercaptide)
 RL: USES (Uses)

(polyurethane-foam-forming compns. contg. Dabco 120, fire-resistant, storage stabilizers for)

IT 25168-21-2, Dibutyltin bis(isooctyl maleate)
 RL: USES (Uses)
 (polyurethane-foam-forming compns. contg. Dabco 125, fire-resistant, storage stabilizers for)

IT 157974-73-7, Dabco DC 2
 RL: USES (Uses)
 (polyurethane-foam-forming compns. contg. Dabco DC-2, fire-resistant, storage stabilizers for)

IT 60077-19-2
 RL: USES (Uses)
 (polyurethane-foam-forming compns. contg. Fomrez UL-22, fire-resistant, storage stabilizers for)

IT 28039-87-4, Adipic acid-neopentyl glycol copolymer, sru
 RL: USES (Uses)
 (polyurethane-foam-forming compns. contg. Formrez 55-112, fire-resistant, storage stabilizers for)

IT 98-94-2, Polycat 8 756-79-6, Fyrol DMMP 1477-55-0,
 1,3-Benzenedimethanamine **2095-01-4**, 2,6-Diamino-3,5-diethyltoluene **2095-02-5**, 2,4-Diamino-3,5-diethyltoluene 2179-99-9, Fomrez UL-28 2781-11-5, Fyrol 6 9016-87-9, Polymethylenepolyphenylene **isocyanate** 9046-10-0, Jeffamine D-2000 9049-71-2, Polypropylene glycol sucrose ether 9082-00-2, Polyethylene-polypropylene glycol glycerol ether 21645-51-2, Alumina trihydrate, miscellaneous 25322-69-4D, Polypropylene glycol, reaction products with methyldiaminopentane 25723-16-4, Polypropylene glycol **trimethylolpropane** ether 25791-96-2 27925-07-1, Adipic acid-neopentyl glycol copolymer 32534-81-9, Pentabromodiphenyl ether 34364-26-6 36483-60-0, Hexabromodiphenyl ether 40088-47-9, Tetrabromodiphenyl ether 51178-86-0, Ethylenediamine-propylene oxide adduct 52747-01-0, MDI-tripropylene glycol copolymer 80341-41-9, Fyrol 51 113781-72-9, Firemaster 836 117148-05-7, DE-71 145054-64-4, Saytex 8010 146104-99-6, Texrim TR 5050 158254-35-4, Antiblaze NR 25 158254-57-0, Baytec RE 527A 160162-58-3
 RL: USES (Uses)
 (polyurethane-foam-forming compns. contg., fire-resistant, storage stabilizers for)

IT 109-55-7D, 3-(Dimethylamino)propylamine, tall-oil fatty amides, salts with tall-oil fatty acids
 RL: USES (Uses)
 (storage stabilizers, for polyurethane-foam-forming compns. contg. fireproofing agents)

L24 ANSWER 8 OF 26 CAPLUS COPYRIGHT 2003 ACS
 AN 1994:219965 CAPLUS
 DN 120:219965
 TI Manufacture of flexible polyurethane foams having low density
 IN Ochiai, Toshiaki; Sugita, Hiroaki; Takeuchi, Yoshito; Sasaki, Kazuki; Sasahara, Toshiaki
 PA Nippon Polyurethane Kogyo Kk, Japan; Toyota Motor Co Ltd
 SO Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C08G018-08
 ICS C08J009-02
 ICI C08G018-08, C08G101-00; C08L075-04
 CC 38-3 (Plastics Fabrication and Uses)
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|-----------------|----------|
| PI | JP 05320300 | A2 | 19931203 | JP 1992-134451 | 19920428 |
| PRAI | JP 1992-134451 | | 19920428 | | |
| AB | The foams suitable for seat cushions are manufd. from polyisocyanates , polyols, blowing agents, catalysts, and foam stabilizers, and the process uses H2O and C2HCl2F3, C2H2Cl2F, C2H2F4, | | | | |

CHClF₂, and/or C₂H₄F₂ as the blowing agents and 0.5-4.0 parts (based on 100 parts polyols) amines having .gtoreq.2 primary and /or secondary amino groups. Thus, a mixt. contg. polyether triol 100, TEDA-L33 (catalyst) 0.6, TOYOCAT-ET (catalyst) 0.15, SRX-274C (foam stabilizer) 0.5, Jeffamine D 4000 1.0, C₂H₂F₄ 4.0, and H₂O 2.8 parts was stirred with 100 parts MDI mixt., and the resulting compn. was cast in a container to give a foam having free rise d. 36.5.

ST polyurethane foam manuf blowing agent; fluorocarbon blowing agent
polyurethane foam; water blowing agent polyurethane foam; amine urethane
polymer foam manuf; cushion polyurethane foam manuf

IT Blowing agents
(chloro)fluorocarbons and water, in flexible polyurethane foam manuf.,
for low d., for cushions)

IT Urethane polymers, preparation
RL: TEM (Technical or engineered material use); USES (Uses)
(cellular, manuf. of, flexible, blowing agents and amines for, for low
d., for cushions)

IT Cushions
(polyurethane foams for, flexible, with low d.)

IT Urethane polymers, preparation
RL: TEM (Technical or engineered material use); USES (Uses)
(polyether-polyurea-, cellular, manuf. of, flexible, blowing agents
for, for low d., for cushions)

IT Amines, uses
RL: USES (Uses)
(secondary, primary and/or, in flexible polyurethane foam manuf., for
low d., for cushions)

IT 75-45-6, Monochlorodifluoromethane 7732-18-5, Water, uses 25167-88-8,
Dichloromonofluoroethane 25497-28-3, Difluoroethane 29759-38-4,
Tetrafluoroethane 34077-87-7
RL: USES (Uses)
(blowing agents, in flexible polyurethane foam manuf., for low d., for
cushions)

IT **2095-01-4DP**, 3,5-Diethyltoluene-2,6-diamine, polymers with polyols
and **polyisocyanates 2095-02-5DP**, 3,5-Diethyltoluene-
2,4-diamine, polymers with polyols and **polyisocyanates**
2536-05-2DP, 2,2'-Diphenylmethane **diisocyanate**, polymers with
polyols and amines and **polyisocyanates** 5285-60-9DP, Unilink
4200, polymers with polyols and **polyisocyanates** 5873-54-1DP,
2,4'-Diphenylmethane **diisocyanate**, polymers with polyols and
amines and **polyisocyanates** 9016-87-9DP, Polymethylene
polyphenylene **isocyanate**, polymers with polyols and amines and
polyisocyanates 9046-10-0DP, Jeffamine D 4000, polymers with
polyols and **polyisocyanates** 64852-22-8DP, Jeffamine T 5000,
polymers with polyols and **polyisocyanates** 91825-07-9DP,
Coronate T 80, polymers with polyols and amines and
polyisocyanates
RL: TEM (Technical or engineered material use); PREP (Preparation); USES
(Uses)
(cellular, manuf. of, flexible, blowing agents for, for low d., for
cushions)

L24 ANSWER 9 OF 26 CAPLUS COPYRIGHT 2003 ACS
AN 1993:473955 CAPLUS
DN 119:73955
TI Preparation of polyurea-polyurethane moldings with good release,
coatability, and mechanical properties
IN Ikemoto, Mitsunari; Sasaki, Kazuoki; Wada, Hachiro; Masuko, Shitomi;
Yokota, Hiroyoshi
PA Nippon Polyurethane Kogyo Kk, Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08G018-48
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 38

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|-----------------|----------|
| PI | JP 05009257 | A2 | 19930119 | JP 1991-188066 | 19910702 |
| PRAI | JP 1991-188066 | | 19910702 | | |
| AB | The title moldings are prepd. by reaction injection molding from polyisocyanates , alkoxyated partial esters of polyols and fatty acids and/or polyamines, chain extenders, and, optionally, blowing agents and additives. An isocyanate prepolymer (22.7% NCO) prepd. from 80 parts liq. urethaneimine-modified MDI and 20 parts polypropylene glycol triol was used with a mixt. of propoxylated glycerol monostearate 35, Jeffamine T 5000 35, 8:2 3,5-diethyl-2,4-diaminotoluene-3,5-diethyl-2,6-diaminotoluene mixt. 25, 2:1 dipropylene glycol-triethylenediamine mixt. 0.1, and dibutyltin dilaurate 0.1 part at NCO index 105 in the manuf. of reaction injection moldings showing flexural modulus 2990 kg/cm2 and elongation 220%. | | | | |
| ST | polyurea polyurethane reaction injection molding; mold release polyurea polyurethane; coatability polyurea polyurethane molding; glycerol stearate propoxylate polyurethane demolding | | | | |
| IT | Urethane polymers, preparation RL: PREP (Preparation) (polyurea-, prepn. of reaction-injection-molded, with good mold release) | | | | |
| IT | Molding of plastics and rubbers (reaction injection, of polyurea-polyurethanes, with good release) | | | | |
| IT | 101-68-8D, MDI, polymers with polyamines and polyols 2095-01-4D , 3,5-Diethyl-2,6-diaminotoluene, polymers with polyisocyanates , polyamines, and polyols 2095-02-5D , 3,5-Diethyl-2,4-diaminotoluene, polymers with polyisocyanates , polyamines, and polyols 25322-69-4D, polymers with polyisocyanates , polyamines, and polyols 51158-08-8D, polymers with polyisocyanates and polyamines 64852-22-8D, polymers with polyisocyanates , polyamines, and polyols 102051-17-2D, polymers with polyisocyanates and polyamines RL: PEP (Physical, engineering or chemical process); PROC (Process) (moldings, reaction-injection, with good release properties) | | | | |

L24 ANSWER 10 OF 26 CAPLUS COPYRIGHT 2003 ACS

AN 1993:125823 CAPLUS

DN 118:125823

TI One-component reactive adhesive containing **polyisocyanate**, polyol, and polyamine

IN Stepanski, Horst; Colinas-Martinez, Jose; Kopp, Richard; Hess, Heinrich; Groegler, Gerhard

PA Bayer A.-G., Germany

SO Eur. Pat. Appl., 9 pp.

CODEN: EPXXDW

DT Patent

LA German

IC ICM C09J175-04

ICS C09J005-06; C08G018-32

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 38

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|--|------|----------|-----------------|----------|
| PI | EP 508259 | A1 | 19921014 | EP 1992-105445 | 19920330 |
| | EP 508259 | B1 | 19960605 | | |
| | R: BE, DE, ES, FR, GB, IT, NL | | | | |
| | DE 4111655 | A1 | 19921015 | DE 1991-4111655 | 19910410 |
| | ES 2087330 | T3 | 19960716 | ES 1992-105445 | 19920330 |
| | CA 2065177 | AA | 19921011 | CA 1992-2065177 | 19920406 |
| | JP 05140527 | A2 | 19930608 | JP 1992-114200 | 19920408 |
| PRAI | DE 1991-4111655 | | 19910410 | | |
| AB | The title adhesive, curable by microwave or high-frequency heating contains .gtoreq.1 polyisocyanate , .gtoreq.1 polyol, and .gtoreq.1 non-arom. polyamine, the no.-av. value of the equiv. wts. of all | | | | |

polyols and polyamines being .gtoreq.500. An adhesive contg. an ethylene oxide-propylene oxide-triol adduct, 2,4- and 2,6-diamino-3,5-diethyl toluene, 4,4'-diamino-3,3'-dimethyldicyclohexylmethane, and Desmodur TT was used to bond moldings of a glass fiber-reinforced polyester resin and a polycarbonate-ABS copolymer blend.

- ST **isocyanate** polyol polyamine adhesive; adhesive urethane dielec heating; microwave heating urethane adhesive; polyurea polyurethane adhesive heating
- IT Heating
(high-frequency, curing by, of one-component polyurea-polyurethane adhesives)
- IT Heating
(microwave, in curing of polyurea-polyurethane adhesives)
- IT Adhesives
(one-component, polyurea-polyurethanes, for curing by high-frequency heating)
- IT Urethane polymers, uses
RL: USES (Uses)
(polyurea-, adhesives, one-component, for curing by high-frequency heating)
- IT Crosslinking
(thermal, of polyurea-polyurethane adhesives)
- IT **2095-01-4D**, 2,6-Diamino-3,5-diethyltoluene, polymers with **polyisocyanates** and polyols **2095-02-5D**, 2,4-Diamino-3,5-diethyltoluene, polymers with **polyisocyanates** and polyols 6864-37-5D, 4,4'-Diamino-3,3'-dimethyldicyclohexylmethane, polymers with **polyisocyanates** and polyols 9003-11-6D, Ethylene oxide-propylene oxide copolymer, ethers with **triols**, polymers with **polyisocyanates** and polyamines 26747-90-0D, polymers with polyamines and polyols 39383-24-9D, Desmodur TT, polymers with polyamines and polyols
RL: USES (Uses)
(adhesives, one-component, for curing by high-frequency heating)

L24 ANSWER 11 OF 26 CAPLUS COPYRIGHT 2003 ACS

AN 1992:216513 CAPLUS

DN 116:216513

TI Moisture-curable polyurethane compositions containing polyaldimines

IN Aoki, Masaaki; Honda, Hiroshi; Kamiyama, Masayuki

PA Mitsui Toatsu Chemicals, Inc., Japan

SO Eur. Pat. Appl., 21 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM C08G018-32

ICS C08G018-10; C09D175-04; C09K003-10

CC 42-11 (Coatings, Inks, and Related Products)

Section cross-reference(s): 37, 39

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|----------|
| | ----- | ---- | ----- | ----- | ----- |
| PI | EP 469751 | A1 | 19920205 | EP 1991-306521 | 19910718 |
| | EP 469751 | B1 | 19950517 | | |
| | R: DE, FR, GB | | | | |
| | JP 04226522 | A2 | 19920817 | JP 1991-128968 | 19910531 |
| | JP 3107412 | B2 | 20001106 | | |
| | JP 04279620 | A2 | 19921005 | JP 1991-148853 | 19910620 |
| | JP 3207216 | B2 | 20010910 | | |
| | US 5087661 | A | 19920211 | US 1991-727536 | 19910709 |
| | KR 9706961 | B1 | 19970501 | KR 1991-12364 | 19910719 |
| PRAI | JP 1990-190730 | A | 19900720 | | |
| | JP 1990-218120 | A | 19900821 | | |
| | JP 1990-336081 | A | 19901130 | | |

AB Moisture-curable compns. with good storage stability and high curability, useful for manuf. of waterproof materials, sealants, and coatings, contain Y(N:CHX)n (X = C6-15 aryl, Y = di- or trivalent C2-15 hydrocarbon group or

di- or trivalent polyoxyalkylene group with mol. wt. 70-6000, $n = 2$ or 3) and a **polyisocyanate** and(or) a polyurethane prepolymer having .gtoreq.2 NCO groups/mol. Thus, a sealant contg. CaCO_3 450, TiO_2 50, Irganox 1010 10, 2600:1802:598 polypropylene glycol-polypropylene triol-2,4-tolylene **diisocyanate** prepolymer (NCO content 1.89%) 800, product of BzH and 60:40 2,5-bis(aminomethyl)bicyclo[2.2.1]heptane-2,6-bis(aminomethyl)bicyclo[2.2.1]heptane mixt. (amine value 337 mg KOH/g) 54, thixotropic agent 100, and PhMe 170 parts exhibited good workability after 14 days at 50.degree. in a sealed container and cured after application with no bubble formation to a product with 100% modulus 5.6 kg/cm², tensile strength 39.6 kg/cm², and elongation 920%.

ST moisture curable polyurethane sealant coating; waterproof moisture cured polyurethane; polyaldimine crosslinking agent polyurethane; polyoxypropylene polyurethane sealant moisture curable; bisaminomethylbicycloheptane benzaldehyde imine crosslinker; tolylene **diisocyanate** polyurethane crosslinker

IT Urethane polymers, miscellaneous
RL: MSC (Miscellaneous)
(crosslinkers for, polyaldehydes as, in presence of moisture)

IT Vulcanization accelerators and agents
(polyaldehydes, for polyurethane rubbers in presence of moisture)

IT Crosslinking agents
(polyaldehydes, for polyurethanes in presence of moisture)

IT Water-resistant materials
(polyurethane, polyaldehydes as, in presence of moisture)

IT Imines
RL: MOA (Modifier or additive use); USES (Uses)
(ald-, poly-, crosslinking agents, for polyurethanes in presence of moisture)

IT Sealing compositions
(moisture-curable, storage-stable, polyurethane, contg. polyaldimine crosslinkers)

IT Coating materials
(moisture-curable, storage-stable, polyurethane, contg. polyaldimine crosslinkers)

IT Rubber, urethane, miscellaneous
RL: MSC (Miscellaneous)
(polyoxyalkylene-, vulcanizing agents for, polyaldehydes as, in presence of moisture)

IT 77-99-6D, adducts with TDI 4035-89-6 26471-62-5D, TDI, adducts with **trimethylolpropane** 96024-70-3, Olester NP-1000 119978-26-6, Olester P45-75S
RL: USES (Uses)
(crosslinkers for, polyaldehydes as, in presence of moisture)

IT 3009-40-3P 136855-73-7P 141085-50-9P 141085-51-0P 141085-52-1P
141085-53-2P 141085-54-3P 141085-55-4P 141085-56-5P 141085-57-6P
141085-58-7P 141085-59-8P 141085-60-1P 141085-61-2P 141085-62-3P
141085-63-4P 141085-64-5P 141085-65-6P 141138-37-6P 141181-94-4P
141181-95-5P
RL: PREP (Preparation)
(manuf. of, for crosslinkers for polyurethanes in presence of moisture)

IT 2855-13-2, Isophoronediamine 2916-25-8, Bicyclo[2.2.1]heptane-2,6-dimethanamine 2916-26-9, Bicyclo[2.2.1]heptane-2,5-dimethanamine
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with aldehydes)

IT 124-09-4, Hexamethylenediamine, reactions **2095-01-4**, 2,6-Diamino-3,5-diethyltoluene **2095-02-5**, 2,4-Diamino-3,5-diethyltoluene 74421-59-3, 1,3,5-Tris(aminomethyl)cyclohexane
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with benzaldehyde)

IT 100-52-7, Benzaldehyde, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with di- and triamines)

IT 104-87-0, p-Tolualdehyde 123-11-5, p-Anisaldehyde, reactions 4748-78-1, 4-Ethylbenzaldehyde 40150-98-9, p-Isobutylbenzaldehyde
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with diamines)

IT 36510-95-9, Bis(aminomethyl)cyclohexane
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with ethylbenzaldehyde)

IT 929-59-9, Jeffamine EDR-148
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with isobutylbenzaldehyde)

IT 620-23-5, m-Tolualdehyde
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with isophoronediamines)

IT 110-60-1, Tetramethylenediamine 1761-71-3, 4,4'-
 Diaminodicyclohexylmethane
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with tolualdehyde)

IT 584-84-9D, polymers with polypropylene glycols and **triols**
 25322-69-4D, Polypropylene glycol, polymers with tolylene
diisocyanate and polypropylene **triols**
 RL: USES (Uses)
 (rubber sealants, vulcanizing agents for, polyaldimines as, in presence
 of moisture)

IT 9069-50-5, Polytetramethylene glycol-TDI copolymer
 RL: USES (Uses)
 (rubber, paints, vulcanizing agents for, polyaldimines as, in presence
 of moisture)

IT 9057-91-4, Polypropylene glycol-TDI copolymer
 RL: USES (Uses)
 (rubber, vulcanizing agents for, polyaldimines as, in presence of
 moisture)

L24 ANSWER 12 OF 26 CAPLUS COPYRIGHT 2003 ACS
 AN 1991:681825 CAPLUS
 DN 115:281825
 TI Manufacture of heat-curable powder for polyurethanes
 IN Groegler, Gerhard; Hess, Heinrich; Kopp, Richard; Rasshofer, Werner
 PA Bayer A.-G., Germany
 SO Eur. Pat. Appl., 12 pp.
 CODEN: EPXXDW
 DT Patent
 LA German
 IC ICM C08G018-32
 ICS C08G018-40; C08G018-70; C08L075-04
 CC 39-4 (Synthetic Elastomers and Natural Rubber)
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|-----------------|----------|
| PI | EP 431413 | A2 | 19910612 | EP 1990-122366 | 19901123 |
| | EP 431413 | A3 | 19920226 | | |
| | R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, SE | | | | |
| | DE 3940271 | A1 | 19910613 | DE 1989-3940271 | 19891206 |
| | CA 2031224 | AA | 19910607 | CA 1990-2031224 | 19901130 |
| | US 5077339 | A | 19911231 | US 1990-621200 | 19901130 |
| | JP 04100815 | A2 | 19920402 | JP 1990-403985 | 19901204 |
| PRAI | DE 1989-3940271 | | 19891206 | | |

AB Storage-stable, heat-curable powders for the manuf. of polyurethanes are
 prepd. by mixing melts prepd. from solid **polyisocyanates** and
 NCO-reactive solid high-mol.-wt. compds. and optionally solid or liq.
 low-mol.-wt. compds. with an emulsifier-contg. inert solvent, followed by
 forming a powder. Thus, a melt contg. adipic acid-1,4-butanediol-ethylene
 glycol copolymer (mol. wt. 2000, OH no. 56) 700, dioctyltin
 bis(mercaptoacetate) 0.1, and TDI dimer 36 g was added dropwise to 400 g
 cleaning gasoline contg. 4 g Anteron V 216 (emulsifier) with stirring to
 emulsify the melt, and after a short time, filtration of the solidified
 melt gave a powder with particle size 5-100 .mu.m, that was stable for
 several wk. Molding the powder 2 h at 120-130.degree. gave a sample, that
 was aged 7 days, showing 100% modulus 8.9 MPa, tensile strength 42 MPa,
 breaking elongation 650%, elasticity 57%, and Shore A hardness 84.

ST polyester polyurethane rubber forming powder; heat curable polyurethane
 forming powder; storage stable polyurethane forming powder; polyadipate

- polyurethane rubber forming powder; ethylene glycol polyester polyurethane rubber; butanediol polyester polyurethane rubber; emulsifier polyurethane forming powder
- IT Emulsifying agents
(in manuf. of storage-stable heat-curable powders for polyurethane rubbers)
- IT Rubber, urethane, preparation
RL: PREP (Preparation)
(polyester-, block, manuf. of, storage-stable heat-curable patterns in)
- IT Rubber, urethane, preparation
RL: PREP (Preparation)
(polyester-polyoxyalkylene-polyurea-, block, manuf. of, storage-stable heat-curable patterns in)
- IT Rubber, synthetic
RL: USES (Uses)
(polyester-polyoxyalkylene-polyurea-polyurethane, block, manuf. of, storage-stable heat-curable patterns in)
- IT Rubber, urethane, preparation
RL: PREP (Preparation)
(polyester-polyurea-, block, manuf. of, storage-stable heat-curable patterns in)
- IT Rubber, synthetic
RL: USES (Uses)
(polyester-polyurea-polyurethane, block, manuf. of, storage-stable heat-curable patterns in)
- IT Alkenes, polymers
RL: USES (Uses)
(.alpha.-, polymers, with vinylpyrrolidone, emulsifiers, in manuf. of storage-stable heat-curable powders for polyurethane rubbers)
- IT 88-12-0D, polymers with long-chain .alpha.-olefins 32440-50-9
137801-87-7, Antaron V 226
RL: USES (Uses)
(emulsifiers, in manuf. of storage-stable heat-curable powders for polyurethane rubbers)
- IT 6864-37-5DP, Laromin C, block polyurethane derivs. 26747-90-ODP, TDI dimer, block polyurethane derivs. 28132-94-7DP, Adipic acid-ethylene glycol-2,4-toluene **diisocyanate** copolymer, hydrolyzed, reaction products with bis(methylaminocyclohexyl)methane and TDI
RL: PREP (Preparation)
(rubber, manuf. of, storage-stable heat-curable powder in)
- IT 101-68-8DP, MDI, **triols**, polyester-polyurethane derivs. 2095-02-5DP, 2,4-Diamino-3,5-diethyltoluene, block polyester-polyurea-polyurethane derivs. 9057-91-4DP, hydrolyzed, polyester-polyurea-polyurethane derivs. 24800-44-ODP, Tripropylene glycol, **triols**, polyester-polyurethane derivs. 25322-69-4DP, Polypropylene glycol, **triols**, polyester-polyurethane derivs. 26570-73-ODP, Adipic acid-1,4-butanediol-ethylene glycol copolymer, amine-terminated, polyurea-polyurethane derivs. 114386-05-9P 137593-27-2P 137644-41-8DP, block polyester-polyurea-polyurethane derivs. 137644-42-9DP, block polyester-polyurea-polyurethane derivs.
RL: PREP (Preparation)
(rubber, manuf. of, storage-stable heat-curable powders in)

L24 ANSWER 13 OF 26 CAPLUS COPYRIGHT 2003 ACS
AN 1991:634412 CAPLUS
DN 115:234412
TI Reaction-injection molding of urethane elastomers
IN Saito, Yoichi; Tamai, Nobuyuki; Wada, Hiroshi
PA Asahi Glass Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08G018-66
ICS B29C045-00; C08G018-76
CC 39-4 (Synthetic Elastomers and Natural Rubber)
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|-----------------|----------|
| PI | JP 03115422 | A2 | 19910516 | JP 1989-252241 | 19890929 |
| PRAI | JP 1989-252241 | | 19890929 | | |
| AB | The title process uses polyoxyalkylenes (OH no. 5-17, total unsatn. 1.07 mequiv./g), asym. arom. diamines, and asym. diisocyanates. Thus, a mixt. of polyoxypropylene-polyoxyethylene triol (unsatn. 0.030 mequiv./g, OH no. 14) 80, 2-chloro-1,4-diaminobenzene 20, and Bu2Sn dilaurate 0.1 part was injection-molded with MDI contg. 10% 2,4'-isomer at NCO index 105 and post-cured at 120.degree. to give a rubber with 100% modulus 140 kg/cm2, tensile strength 330 kg/cm2, elongation 340%, and continuous molding runs 10 (mold initially coated with wax). | | | | |
| ST | reaction injection molding polyurethane; polyoxyalkylene urethane rubber molding; urethane rubber injection molding; polyurea urethane rubber molding | | | | |
| IT | Rubber, urethane, preparation RL: PROC (Process) (polyoxyalkylene-polyurea-, manuf. of, by reaction injection process) | | | | |
| IT | Rubber, synthetic RL: PROC (Process) (polyoxyalkylene-polyurea-polyurethane, manuf. of, by reaction injection process) | | | | |
| IT | Molding of plastics and rubbers (reaction injection, of urethane rubbers, asym. diamines and diisocyanates for) | | | | |
| IT | 615-66-7DP, 2-Chloro-1,4-diaminobenzene, polymers with polyoxyalkylenes and asym. diisocyanates 2095-02-5DP, polymers with polyoxyalkylenes and asym. diisocyanates 5873-54-1DP, Diphenylmethane-2,4'-diisocyanate, polymers with polyoxyalkylenes and asym. arom. diamines 103490-01-3DP, polymers with polyoxyalkylenes and asym. diisocyanates RL: IMF (Industrial manufacture); PREP (Preparation) (rubber, prepn. of, by reaction injection molding) | | | | |

L24 ANSWER 14 OF 26 CAPLUS COPYRIGHT 2003 ACS

AN 1991:585137 CAPLUS

DN 115:185137

TI Thermosetting polyester-polyoxyalkylene-polyurethanes

IN Groegler, Gerhard; Kopp, Richard; Hess, Heinrich; Haensel, Eduard; Scholl, Thomas

PA Bayer A.-G., Germany

SO Eur. Pat. Appl., 12 pp.

CODEN: EPXXDW

DT Patent

LA German

IC ICM C08G018-32

ICS C08G018-40; C08G018-70; C08G018-76

CC 39-4 (Synthetic Elastomers and Natural Rubber)

Section cross-reference(s): 38, 42

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|--|------|----------|-----------------|----------|
| PI | EP 431414 | A2 | 19910612 | EP 1990-122368 | 19901123 |
| | EP 431414 | A3 | 19911106 | | |
| | EP 431414 | B1 | 19940406 | | |
| | R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, SE | | | | |
| | DE 3940273 | A1 | 19910613 | DE 1989-3940273 | 19891206 |
| | AT 103947 | E | 19940415 | AT 1990-122368 | 19901123 |
| | ES 2051438 | T3 | 19940616 | ES 1990-122368 | 19901123 |
| | CA 2031235 | AA | 19910607 | CA 1990-2031235 | 19901130 |
| | US 5091497 | A | 19920225 | US 1990-621179 | 19901130 |
| | JP 04108822 | A2 | 19920409 | JP 1990-403983 | 19901204 |
| | ZA 9009758 | A | 19911030 | ZA 1990-9758 | 19901205 |
| PRAI | DE 1989-3940273 | | 19891206 | | |
| | EP 1990-122368 | | 19901123 | | |
| AB | Storage-stable, inhomogeneous mixts. useful in rubbers, adhesives, | | | | |

sealants, and coatings contain solid **polyisocyanates** (m.p. >80.degree.), liq. OH- and (or) NH2-terminated polyoxyalkylenes (mol. wt. 400-600), solid OH- and (or) NH2-terminated polyesters (mol. wt. 400-20,000), and optionally, chain extenders bearing amine and/or OH groups. Thus, a mixt. of polyoxypropylene **triol** (mol. wt. 3000, OH no. 56), Pb octanoate 0.1, bis(3-methyl-4-aminocyclohexyl)methane 0.15, hydrolyzed 2:1 2,4-TDI-poly(ethylene butylene adipate) adduct 100, and TDI dimer 32.5 g was stable for a long time at room temp. Molding for 1 h at 120-130.degree. and annealing for 2-3 h at 120.degree. gave a rubber with 100% modulus 7.5 MPa, tensile strength 22 MPa, elongation 500%, elasticity 52%, and Shore A hardness 86.

ST polyester polyoxyalkylene polyurea polyurethane; urethane rubber precursor stable; thermosetting polyurethane; adhesive polyurea polyurethane; coating polyurethane; sealant polyurea polyurethane

IT Adhesives
Coating materials
Sealing compositions
(polyester-polyoxyalkylene-polyurea-polyurethanes for)

IT Rubber, urethane, preparation
RL: USES (Uses)
(polyester-polyoxyalkylene-polyurea-, manuf. of, storage-stable compns. for)

IT Urethane polymers, preparation
RL: PREP (Preparation)
(polyester-polyoxyalkylene-polyurea-, storage-stable precursors for manuf. of)

IT Rubber, synthetic
RL: USES (Uses)
(polyester-polyoxyalkylene-polyurea-polyurethane, manuf. of, storage-stable compns. for)

IT Polyureas
RL: PREP (Preparation)
(polyester-polyoxyalkylene-polyurethane-, storage-stable precursors for manuf. of)

IT Polyoxyalkylenes, preparation
RL: PREP (Preparation)
(polyester-polyurea-polyurethane-, storage-stable precursors for manuf. of)

IT Polyesters, preparation
RL: PREP (Preparation)
(polyoxyalkylene-polyurea-polyurethane-, storage-stable precursors for manuf. of)

IT 107-21-1DP, 1,2-Ethanediol, polyester-polyurethanes, hydrolyzed, polymers with **polyisocyanates** and polyols 2095-02-5DP, 2,4-Diamino-3,5-diethyltoluene, polymers with **polyisocyanates** and polyols 6864-37-5DP, LAROMINC, polymers with **polyisocyanates** and polyols 25322-69-4DP, Polypropylene glycol, **triol** derivs., polymers with polyols, polyamines and **polyisocyanates** 26570-73-ODP, reaction products with TDI, hydrolyzed, polymers with polyols and **polyisocyanates** 26747-90-ODP, polymers with polyols and polyamines 37353-75-6DP, Polypropylene glycol bisphenol A ether, polymers with **polyisocyanates** and polyamines.
RL: PREP (Preparation)
(rubber, storage-stable precursors for manuf. of)

L24 ANSWER 15 OF 26 CAPLUS COPYRIGHT 2003 ACS

AN 1991:104480 CAPLUS

DN 114:104480

TI Two-component binders and their use for the preparation of coatings and sealants

IN Schmalstieg, Lutz; Hentschel, Karl Heinz; Nachtkamp, Klaus; Pedain, Josef

PA Bayer A.-G., Germany

SO Eur. Pat. Appl., 10 pp.

CODEN: EPXXDW

DT Patent

LA German

IC ICM C08G018-77

ICS C08G018-71; C09D175-04; C09K003-10
 CC 42-10 (Coatings, Inks, and Related Products)
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|-----------------|----------|
| PI | EP 394760 | A1 | 19901031 | EP 1990-106980 | 19900411 |
| | R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL | | | | |
| | CA 2015040 | AA | 19901024 | CA 1990-2015040 | 19900420 |
| | JP 02300275 | A2 | 19901212 | JP 1990-105479 | 19900423 |
| | BR 9001863 | A | 19910618 | BR 1990-1863 | 19900423 |
| | DD 297421 | A5 | 19920109 | DD 1990-340001 | 19900423 |
| PRAI | DE 1989-3913405 | | 19890424 | | |

AB The title binders, with a sufficiently low viscosity that little or no solvent is required, contain the **polyisocyanates** A(OCOZNCO)n (A = residue or a polyol with mol. wt. 400-20,000; B = alkylene, cycloalkylene, arylene; n .gtoreq. 2) and 0.8-1 equiv. (based on free and blocked NCO groups) compd. bearing .gtoreq.2 groups reactive with reversibly blocked NCO groups. A **trimethylolpropane**-initiated polyoxypropylene **triol** (OH no. 56) was converted to a trimethylsilyl ether and stirred (1073 g) with 175.5 g 6-isocyanatohexanol chloride and 1 mL pyridine at 80-100.degree. until all COCl groups were consumed to give a prepolymer (I) (viscosity 600 mPa-s at 20.degree.) contg. 3.45% NCO. A mixt. (viscosity 800 mPa-s at 22.degree.) of 88 parts I and 12 parts 2:1 2-isopropylloxazolidine-3-ethanol-HMDI adduct was stable in sealed containers, but cured in air as an 8-mm layer to an elastic material.

ST binder solventless sealant coating; **isocyanate** blocked binder solventless; polyoxyalkylene isocyanatohexanoate binder; HMDI urethane binder; isopropylloxazolidineethanol urethane binder

IT Polyoxyalkylenes, compounds
 RL: USES (Uses)
 (esters, with isocyanatohexanoates, polymers with diols and diamines, solvent-free binders for sealants)

IT Polyesters, compounds
 RL: USES (Uses)
 (polycarbonate-, esters, with isocyanatohexanoates, polymers with diols and diamines, solvent-free binders for sealants)

IT Polycarbonates, compounds
 RL: USES (Uses)
 (polyester-, esters, with isocyanatohexanoates, polymers with diols and diamines, solvent-free binders for sealants)

IT Sealing compositions
 (solvent-free, binders for, blocked **isocyanate** prepolymer compns. as)

IT Coating materials
 (solventless, binders for, blocked **isocyanate** prepolymer compns. as)

IT 56-81-5D, 1,2,3-**Propanetriol**, polymers with **isocyanate** prepolymers 2095-02-5D, 3,5-Diethyl-2,4-toluenediamine, polymers with **isocyanate** prepolymers 3729-18-8D, 6-Isocyanatohexanoylchloride, reaction products with polyester and polyether polyol trimethylsilyl ethers, polymers with diols and diamines 59719-67-4D, polymers with **isocyanate** prepolymers 95328-44-2D, **Trimethylolpropane** polyethylene-polypropylene glycol ether (1:3) tris(trimethylsilyl) ether, reaction products with isocyanatohexanoyl chloride, polymers with diols and diamines 103694-75-3D, trimethylsilyl ethers, reaction products with isocyanatohexanoyl chloride, polymers with diols and diamines 132429-78-8D, reaction products with isocyanatohexanoyl chloride, polymers with diols and diamines 132470-76-9D, polymers with **isocyanate** prepolymers
 RL: USES (Uses)
 (binders, solvent-free, for coatings and sealants)

L24 ANSWER 16 OF 26 CAPLUS COPYRIGHT 2003 ACS

AN 1990:498323 CAPLUS

DN 113:98323

TI **Isocyanate**-reactive polymers having imino/enamine functionality

IN Cassidy, Edward Francis; Gillis, Herbert Russell; Hannaby, Malcolm;
 Leenslag, Jan Willem; Parfondry, Alain
 PA Imperial Chemical Industries PLC, UK; ICI Americas, Inc.
 SO Eur. Pat. Appl., 16 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 IC ICM C08G018-10
 ICS C08G018-12; C08G018-32; C08G018-50
 CC 35-8 (Chemistry of Synthetic High Polymers)
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|-----------------|----------|
| PI | EP 359456 | A1 | 19900321 | EP 1989-308942 | 19890905 |
| | R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, NL, SE | | | | |
| | ZA 8906130 | A | 19900829 | ZA 1989-6130 | 19890810 |
| | DK 8904452 | A | 19900310 | DK 1989-4452 | 19890908 |
| | JP 02107619 | A2 | 19900419 | JP 1989-234543 | 19890908 |
| | AU 8941264 | A1 | 19900315 | AU 1989-41264 | 19890911 |
| | AU 629570 | B2 | 19921008 | | |
| PRAI | GB 1988-21183 | | 19880909 | | |

AB The title polymers, useful in reaction injection molding systems as **isocyanate**-reactive ingredients, comprised the reaction products of (A) an **isocyanate**-terminated polyurethane prepolymer formed by reacting a polymeric polyol (having a hydroxyl equiv. wt. of .gtoreq.500) with a stoichiometric excess of inorg. **polyisocyanate**, and (B) a stoichiometric excess (based on the free **isocyanate** groups present in the prepolymer) of an imino-functional or enamine-contg. compd. having a mol. wt. <750. Thus, 190 parts of a prepolymer having an **isocyanate** content of 14.7% (prepd. by reacting 53.4 parts of an 80:20 4,4'-diphenylmethane **diisocyanate**-2,4'-diphenylmethane **diisocyanate** isomer mixt. with 46.6 parts of a polyoxypropylenediamine having mol. wt. 2000) was reacted with 100 parts of a reaction mixt. prepd. by reacting 25.0 parts of a prepolymer (obtained by reacting a prepolymer having 4.5% **isocyanate** content prepd. by reacting an 80:20 mixt. of 4,4'-diphenylmethane **diisocyanate** and 2,4'-diphenylmethane **diisocyanate** with a **polyoxypropylenetriol**-mol. wt. 5000) with 25.0 parts of a diimine prepd. from a cyclohexanone and a polyoxypropylenediamine of mol. wt. 400, and 50.0 parts of a diamine mixt. contg. 80% 3,5-diethyl-2,4-toluenediamine. The mixt. was reaction injection molded to produce specimens having flexural modulus 843 mP, elongation 59%, and impact (J) (sic) +20.degree. 39, and -20.degree. 18.

ST **isocyanate** reactive polymer imino group; enamine group
isocyanate reactive polymer; reaction injection molding
isocyanate polymer

IT Urethane polymers, preparation

RL: IMF (Industrial manufacture); PREP (Preparation)
 (polyoxyalkylene-, manuf. of, having imino-enamine functionality)
 IT 75-21-8DP, Oxirane, polymers 75-56-9DP, reaction products with **triols**, condensation polymers 95-80-7DP, reactions products with diamines and cyclohexanone, polymers 101-68-8DP, condensation polymers 101-77-9DP, reactions products with diamines and cyclohexanone, polymers 108-94-1DP, Cyclohexanone, reaction products with polyoxypropylene diamines 823-40-5DP, reactions products with diamines and cyclohexanone, polymers 1208-52-2DP, reactions products with diamines and cyclohexanone, polymers 2095-01-4DP, 3,5-Diethyl-2,6-toluenediamine, reactions products with diamines and cyclohexanone, polymers 2095-02-5DP, 3,5-Diethyl-2,4-toluenediamine, reactions products with diamines and cyclohexanone, polymers 5873-54-1DP, condensation polymers 14970-65-1DP, reactions products with diamines and cyclohexanone, polymers 19900-69-7DP, 3,3',5,5'-Tetraisopropyl-4,4'-diaminodiphenylmethane, reactions products with diamines and cyclohexanone, polymers 19900-72-2DP, reactions products with diamines and cyclohexanone, polymers 78062-20-1DP, Uretonimine, reaction products with MDI, polymers
 RL: IMF (Industrial manufacture); PREP (Preparation)

(manuf. of, having imino-enamine functionality)

L24 ANSWER 17 OF 26 CAPLUS COPYRIGHT 2003 ACS

AN 1989:575685 CAPLUS

DN 111:175685

TI Polyurethane and/or polyurea moldings containing powdered oligomers for improved demolding and mechanical properties

IN Rasshofer, Werner; Schmidt, Manfred

PA Bayer A.-G., Fed. Rep. Ger.

SO Eur. Pat. Appl., 9 pp.

CODEN: EPXXDW

DT Patent

LA German

IC ICM C08G018-38

ICS C08G018-66

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 37

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|------------|------|----------|-----------------|----------|
| PI | EP 310974 | A2 | 19890412 | EP 1988-116266 | 19880930 |
| | EP 310974 | A3 | 19900530 | | |

R: BE, DE, FR, GB, IT, SE

| | | | | |
|------------|----|----------|-----------------|----------|
| DE 3734163 | A1 | 19890420 | DE 1987-3734163 | 19871009 |
|------------|----|----------|-----------------|----------|

| | | | | |
|-------------|----|----------|----------------|----------|
| JP 01123816 | A2 | 19890516 | JP 1988-254703 | 19881007 |
|-------------|----|----------|----------------|----------|

PRAI DE 1987-3734163 19871009

AB Powd. oligomers (mol. wt. <5,000) prepd. by the reaction of **polyisocyanates** with hydrazine and/or org. diamines are used (0.01-3%) in compns. used for the manuf. of polyurethane and/or polyurea moldings (optionally cellular with integral skin) by reaction injection molding. The oligomers inhibit shrinkage of the moldings and give improved demolding. A powd. oligomer (particle size .ltoreq.30 .mu.) prepd. from 2 mol 80:20 mixt. of 2,4-(I) and 2,6-diamino-3,5-diethyltoluene (II) and 1 mol 4,4'-diisocyanatodiphenylmethane (III) was mixed (1.5 parts) with an amino polyether 62, 80:20 I-II mixt. 30, mold release agent 6, and castor oil 2 parts, and the mixt. was used with a **polyisocyanate** (NCO index 105) in the manuf. of reaction injection moldings (d. 1.15) having low shrinkage, vs. high shrinkage without the oligomer. The amino polyether was prepd. by the hydrolysis of NCO groups of a prepolymer prepd. from TDI, oxirane-methyloxirane-glycerol adduct and a propoxylated mixt. of water and **trimethylolpropane**. The **polyisocyanate** (19% NCO) was prepd. from ureton group-contg. III derivs. and a polyester polyol (OH no. 56) prepd. from adipic acid, HOCH₂CH₂OH, and HO (CH₂)₄OH.

ST polyurethane polyurea shrinkage resistance; oligomer additive polyurethane polyurea; reaction injection polyurethane polyurea; mold release polyurea polyurethane

IT Polyureas

RL: USES (Uses)

(oligomeric, powd., in polyurea-polyurethane manuf., for demolding and low shrinkage)

IT Urethane polymers, preparation

RL: PREP (Preparation)

(polyurea-, prepn. of, powd. oligomers in, for demolding and low shrinkage)

IT Polyureas

RL: PREP (Preparation)

(polyurethane-, prepn. of, powd. oligomers in, for demolding and low shrinkage)

IT Molding of plastics and rubbers

(reaction injection, of polyurea-polyurethanes, powd. oligomers for low shrinkage in)

IT Molding apparatus for plastics and rubbers

(reaction injection, release agents for, in polyurea-polyurethane manuf.)

IT 26337-70-2P 123374-69-6P

RL: PREP (Preparation)

(oligomeric, powd., in polyurea-polyurethane manuf., for shrinkage resistance and molding release)

IT 101-68-8DP, ureton derivs., polymers with polyols and polyamines
 107-21-1DP, Ethylene glycol, polymers with adipic acid,
polyisocyanates, and polyamines 110-63-4DP, 1,4-Butanediol,
 polymers with adipic acid, **polyisocyanates**, and polyamines
 124-04-9DP, Hexanedioic acid, polymers with polyols,
polyisocyanates, and polyamines 2095-01-4DP,
 2,6-Diamino-3,5-diethyltoluene, polymers with **polyisocyanates**,
 polyamines, and polyols 2095-02-5DP, 2,4-Diamino-3,5-
 diethyltoluene, polymers with **polyisocyanates**, polyamines, and
 polyols 9082-00-2DP, Ethylene oxide-propylene oxide copolymer glycerol
 ether, reaction products with TDI, amine derivs., polymers with
polyisocyanates, polyamines, and polyols 25322-69-4DP,
 Polypropylene glycol, reaction products with TDI, amine derivs., polymers
 with **polyisocyanates**, polyamines, and polyols 25723-16-4DP,
 Polypropylene glycol **trimethylolpropane** ether, reaction products
 with TDI, amine derivs., polymers with **polyisocyanates**,
 polyamines, and polyols 26471-62-5DP, TDI, reaction products with
 polyether polyols, amino derivs., polymers with **polyisocyanates**
 and diamines
 RL: PREP (Preparation)
 (prepn. of, powd. oligomers in, for demolding and low shrinkage)

L24 ANSWER 18 OF 26 CAPLUS COPYRIGHT 2003 ACS

AN 1989:214540 CAPLUS

DN 110:214540

TI Manufacture of urethane rubbers by reaction injection molding

IN Saito, Joichi; Wada, Hiroshi; Shibata, Shigehito; Watabe, Takashi; Tanabe,
 Kiyoshi; Kunii, Nobuaki

PA Asahi Glass Co., Ltd., Japan

SO Eur. Pat. Appl., 17 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM C08G018-66

ICS C08G018-50; C08G018-65; C08G018-32

CC 39-4 (Synthetic Elastomers and Natural Rubber)

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|----------|
| PI | EP 288067 | A1 | 19881026 | EP 1988-106423 | 19880421 |
| | R: DE, FR, GB | | | | |
| | US 4808636 | A | 19890228 | US 1988-184671 | 19880422 |
| | JP 01158025 | A2 | 19890621 | JP 1988-98281 | 19880422 |
| | JP 01152118 | A2 | 19890614 | JP 1988-178107 | 19880719 |
| | JP 01230618 | A2 | 19890914 | JP 1988-304052 | 19881202 |
| PRAI | JP 1987-100093 | | 19870424 | | |
| | JP 1987-228444 | | 19870914 | | |

AB Microcellular or noncellular urethane rubbers are manufd. by reaction injection molding (RIM) of 55-95% high-mol. wt. active H compds. comprising polyoxyalkylene polyols or amines, 5-45% chain extenders comprising low-mol. wt. polyols having 2-4 OH groups or .gtoreq.1 diamine, and **polyisocyanates** in an amt. of 0.8-1.3 equiv per each equiv the polyols. Thus, a 50:50 glycerol-initiated polyoxypropylene-oxyethylene **triol** (OH value 28) and polyoxypropylene-oxyethylene diol (OH value 28) mixt. 52, polyoxypropylenediamine (mol. wt. 2000) 30, 1,4-butanediol chain extender 16, 1,3-bis(aminomethyl)benzene 2.0, dibutyltin dilaurate catalyst 0.1, triethylenediamine soln. catalyst 0.3 part, and modified MDI prepolymer (1.05 equiv per equiv active H component) were reaction injection molded at 60-70.degree. to give a urethane rubber showing modulus 125 kg/cm2, tensile strength 290 kg/cm2, elongation 300%, and small amt. of voids, compared with 140, 200, 220, and very many voids for a similar reaction injection molded urethane rubber prepd. from the same mixt. of polyoxyalkylene polyols, ethylene glycol chain extender, and the same **polyisocyanate**.

ST urethane rubber reaction injection molding; polyoxyalkylene urethane

rubber; amine urethane rubber; butanediol urethane rubber; microcellular urethane rubber manuf

IT Amines, polymers
RL: USES (Uses)
(di-, polymers, with polyoxyalkylene polyols and modified MDI, reaction injection molded)

IT Polyoxyalkylenes, compounds
RL: USES (Uses)
(hydroxy-terminated, polymers, with polyamines, polyols and modified MDI, reaction injection molding of)

IT Rubber, urethane, preparation
RL: PROC (Process)
(polyamine-polyoxyalkylene-, manuf. of, reaction injection molded)

IT Rubber, synthetic
RL: PROC (Process)
(polyamine-polyoxyalkylene-polyurethane, manuf. of, reaction injection molded)

IT Molding of plastics and rubbers
(reaction injection, of urethane rubbers, precursor compns. for)

IT 101-68-8DP, modified, prepolymer, polymers with polyoxyalkylene polyols and polyamines 107-21-1DP, 1,2-Ethanediol, polymers with polyoxyalkylene polyol, polyamine, and modified MDI prepolymer 110-63-4P, 1,4-Butanediol, preparation 368-53-6DP, polymers with polyoxyalkylene polyol, polyamine, and modified MDI prepolymer 615-66-7DP, polymers with polyoxyalkylene polyol, polyamine, and modified MDI prepolymer 1477-55-0DP, 1,3-Bis(aminomethyl)benzene, polymers with polyoxyalkylene polyol, polyamine, and modified MDI prepolymer 1761-71-3DP, polymers with polyoxyalkylene polyol, polyamine, and modified MDI prepolymer 2095-01-4DP, 1-Methyl-3,5-diethyl-2,6-diaminobenzene, polymers with polyoxyalkylene polyol, polyamine, and modified MDI prepolymer 2095-02-5DP, polymers with polyoxyalkylene polyol, polyamine, and modified MDI prepolymer 2579-20-6DP, 1,3-Bis(aminomethyl)cyclohexane, polymers with polyoxyalkylene polyol, polyamine, and modified MDI prepolymer 2855-13-2DP, polymers with polyoxyalkylene polyol, polyamine, and modified MDI prepolymer 3114-70-3DP, 1,4-Diaminocyclohexane, polymers with polyoxyalkylene polyol, polyamine, and modified MDI prepolymer 9046-10-0DP, Polyoxypropylenediamine, polymers with polyoxyalkylene polyol, polyol, and modified MDI prepolymer 9082-00-2DP, polymers with polyamines, polyols, and modified MDI prepolymer 25322-69-4DP, triamine derivs., polymers with polyoxyalkylene polyol, polyol, and modified MDI prepolymer 34207-44-8DP, polymers with polyoxyalkylene polyol, polyamine, and modified MDI prepolymer 53637-25-5DP, polymers with polyamines, polyols, and modified MDI prepolymer 102093-68-5DP, polymers with polyoxyalkylene polyol, polyamine, and modified MDI prepolymer 104983-85-9DP, polymers with polyoxyalkylene polyol, polyamine, and modified MDI prepolymer
RL: PREP (Preparation)
(rubber, manuf. of, by reaction injection molding)

L24 ANSWER 19 OF 26 CAPLUS COPYRIGHT 2003 ACS

AN 1987:497633 CAPLUS

DN 107:97633

TI Urea and/or biuret group-containing **polyisocyanate** compositions and their preparation and use in the preparation of plastics by the **isocyanate** polyaddition process

IN Rasshofer, Werner; Paul, Reiner

PA Bayer A.-G. , Fed. Rep. Ger.

SO Ger. Offen., 10 pp.

CODEN: GWXXBX

DT Patent

LA German

IC ICM C08G018-12

ICS C08G018-66; C08G018-32; C08G018-42; C08G018-48; C08L075-04; C08J005-00

CC 37-3 (Plastics Manufacture and Processing)

FAN.CNT 1

PATENT NO.

KIND DATE

APPLICATION NO. DATE

| | | | | | |
|------|-------------------------------|----|----------|-----------------|----------|
| PI | DE 3526233 | A1 | 19870129 | DE 1985-3526233 | 19850723 |
| | EP 211270 | A2 | 19870225 | EP 1986-109479 | 19860711 |
| | EP 211270 | A3 | 19881012 | | |
| | EP 211270 | B1 | 19910724 | | |
| | R: BE, DE, FR, GB, IT, NL, SE | | | | |
| | US 4677136 | A | 19870630 | US 1986-884831 | 19860711 |
| | CA 1273022 | A1 | 19900821 | CA 1986-513699 | 19860714 |
| | JP 62022819 | A2 | 19870131 | JP 1986-169967 | 19860721 |
| | JP 07005703 | B4 | 19950125 | | |
| | BR 8603455 | A | 19870304 | BR 1986-3455 | 19860722 |
| | ZA 8605444 | A | 19870325 | ZA 1986-5444 | 19860722 |
| | ES 2000373 | A6 | 19880216 | ES 1986-466 | 19860722 |
| | AU 8660479 | A1 | 19870129 | AU 1986-60479 | 19860723 |
| | AU 579941 | B2 | 19881215 | | |
| PRAI | DE 1985-3526233 | | 19850723 | | |

AB **Polyisocyanate** compns. having NCO content 0.7-45% are prep'd. by the reaction of .gtoreq.1 org. **polyisocyanate** having NCO content 10-50% with org. compds. having **isocyanate**-reactive groups and water. The compns. are useful in the prepn. of plastics, esp. by reaction-injection molding. A mixt. of 2761 g 4,4'-diisocyanatodiphenylmethane (I) and 5081 g uretonimine-modified I deriv. having NCO content 30% was treated during 25 min at .ltoreq.40.degree. with a mixt. of 2204 g Jeffamine D 2000 and 17.4 g water with evolution of gas, and the reaction product was heated to 125.degree. during 75 min to give a clear **polyisocyanate** compn. having NCO content 21.1%.

ST **isocyanate** prepolymer prepn use; **polyisocyanate** polyurea prepolymer prepn; reaction injection molding
polyisocyanate; polyurethane reaction injection molding

IT Polyureas

RL: PREP (Preparation)
(prepn. of liq., **isocyanate** group-contg., for reaction-injection molding)

IT Urethane polymers, preparation

RL: PREP (Preparation)
(polycarbodiimide-polyurea-, **isocyanate** group-contg., prepn. of liq., for reaction-injection molding)

IT Polyureas

RL: PREP (Preparation)
(polycarbodiimide-polyurethane-, **isocyanate** group-contg., prepn. of liq., for reaction-injection molding)

IT Urethane polymers, preparation

RL: PREP (Preparation)
(polyurea-, prepn. of liq., **isocyanate** group-contg., for reaction-injection molding)

IT Polycarbodiimides

RL: PREP (Preparation)
(polyurea-polyurethane-, **isocyanate** group-contg., prepn. of liq., for reaction-injection molding)

IT Polyureas

RL: PREP (Preparation)
(polyurethane-, prepn. of liq., **isocyanate** group-contg., for reaction-injection molding)

IT Molding of plastics and rubbers

(reaction injection, liq. **isocyanate** group-contg. prepolymers for)

IT 57-55-6DP, Propylene glycol, reaction products with **diisocyanates**, diols, diamines and water 101-68-8DP, MDI, reaction products with polyamines, polyols, and water 584-84-9DP, 2,4-Diisocyanatotoluene, reaction products with polyamines, polyols, and water **2095-01-4DP**, reaction products with **diisocyanates**, diamines, diols, and water **2095-02-5DP**, reaction products with **diisocyanates**, diamines, diols, and water 9046-10-0DP, Jeffamine D 2000, reaction products with **diisocyanates** and water 25322-69-4DP, Polypropylene glycol, reaction products with **diisocyanates**, diamines, and water 52624-57-4DP, Ethylene oxide-propylene oxide copolymer **trimethylolpropane** ether, reaction products with

diisocyanates, diols, diamines and water

RL: PREP (Preparation)

(prepn. of liq., for reaction-injection molding)

IT 108-19-ODP, Biuret, derivs., polymers

RL: PREP (Preparation)

(prepn. of liq., **isocyanate** group-contg., for reaction-injection molding)

L24 ANSWER 20 OF 26 CAPLUS COPYRIGHT 2003 ACS

AN 1987:460444 CAPLUS

DN 107:60444

TI Preparation of elastic moldings

IN Weber, Christian; Schaefer, Hermann

PA Bayer A.-G., Fed. Rep. Ger.

SO Ger. Offen., 30 pp.

CODEN: GWXXBX

DT Patent

LA German

IC ICM C08G018-65

ICS C08G018-32; C08G018-14; C08G018-76

CC 39-4 (Synthetic Elastomers and Natural Rubber)

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|-----------------|----------|
| PI | DE 3520326 | A1 | 19861211 | DE 1985-3520326 | 19850607 |
| | EP 204246 | A2 | 19861210 | EP 1986-107148 | 19860527 |
| | EP 204246 | A3 | 19870513 | | |
| | EP 204246 | B1 | 19900103 | | |
| | R: AT, BE, CH, DE, FR, GB, IT, LI, NL, SE | | | | |
| | AT 49222 | E | 19900115 | AT 1986-107148 | 19860527 |
| | AU 8658311 | A1 | 19861211 | AU 1986-58311 | 19860603 |
| | AU 577195 | B2 | 19880915 | | |
| | BR 8602621 | A | 19870203 | BR 1986-2621 | 19860605 |
| | JP 61287920 | A2 | 19861218 | JP 1986-130469 | 19860606 |
| | ZA 8604233 | A | 19870225 | ZA 1986-4233 | 19860606 |
| | ES 555822 | A1 | 19870901 | ES 1986-555822 | 19860606 |
| PRAI | DE 1985-3520326 | | 19850607 | | |
| | EP 1986-107148 | | 19860527 | | |

AB An elastic polyurea-polyurethane molding (optionally cellular), having d. 0.8-1.4 g/cm³ and a continuous surface layer, is prepd. from a liq. di- or **polyisocyanate** based on diphenylmethane **diisocyanate** and a soln. of an alkyl-substituted diamine (chain extender) in compds. which have mol. wt. 1800-12,000 and contain .gtoreq.2 groups reactive with **isocyanate** groups by 1-shot reaction-injection molding, the reaction temp. being .gtoreq.105.degree. with demolding time 5-60 s. These moldings, which have high flexural modulus and heat resistance, are esp. useful as impact-absorbing materials in automobiles. A polyol component contg. a polyether **triol** (OH no. 27; prepd. by propoxylation of **trimethylolpropane** with subsequent ethoxylation, the methyloxirane-oxirane ratio being 78:22) 58.5, a 65:35 2,4-diamino-3,5-diethyltoluene-2,6-diamino-3,5-diethyltoluene mixt. 41.0, a 5:1 (molar) propylene oxide-ethylenediamine adduct (OH no. 630) 2.0, triethylenediamine 0.3, and Me₂Sn dilaurate 0.2 part was reacted with 99.3 parts of a prepolymer (NCO content 24.5%) prepd. from dipropylene glycol and a mixt. of 4,4'-diisocyanatodiphenylmethane 82, 2,4'-diisocyanatodiphenylmethane 8, and **polyisocyanates** of the diphenylmethane series contg. .gtoreq.3 NCO/mol. 10 parts in a reaction-injection molding process at 120.degree.. The moldings had d. 1142 kg/m³, tensile strength 42.7 MPa, elongation 75%, Shore D hardness 79, and flexural modulus 994 and 698 MPa at room temp. and 120.degree., resp.

ST aminotoluene deriv polyurea polyurethane; **isocyanate** aminotoluene polyurea polyurethane; molding reaction injection elastomer; diisocyanatodiphenylmethane polyurea polyurethane molding; polyurea polyurethane elastomer molding; flexural modulus polyurea polyurethane; impact absorber polyurea polyurethane

IT Urethane polymers, preparation

RL: IMF (Industrial manufacture); PREP (Preparation)
 (polyurea-, prepn. of elastic, reaction-injection molded,
 impact-absorbing)

IT Rubber, urethane, preparation
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (polyurea-, prepn. of reaction-injection molded, impact-absorbing)

IT Polyureas
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (polyurethane-, prepn. of elastic, reaction-injection molded,
 impact-absorbing)

IT Molding of plastics and rubbers
 (reaction injection, of polyurea-polyurethane rubbers)

IT 75-21-8D, Ethylene oxide, polymers with diamines, **polyisocyanates**
 and polyols 75-56-9D, Propylene oxide, polymers with diamines,
polyisocyanates and polyols 101-68-8D, 4,4'-
 Diisocyanatodiphenylmethane, polymers with diaminotoluene derivs.,
polyisocyanates and polyols **2095-01-4D**,
 2,6-Diamino-3,5-diethyltoluene, polymers with diamines,
polyisocyanates and polyols **2095-02-5D**,
 2,4-Diamino-3,5-diethyltoluene, polymers with diamines,
polyisocyanates and polyols 5873-54-1D, 2,4'-
 Diisocyanatodiphenylmethane, polymers with diaminotoluene derivs.,
polyisocyanates and polyols 24800-44-0D, Tripropylene glycol,
 polymers with diamines, **polyisocyanates** and polyols
 25265-71-8D, Dipropylene glycol, polymers with diamines,
polyisocyanates and polyols 51178-86-0D, polymers with diamines,
polyisocyanates and polyols 52624-57-4D, Ethylene
 oxide-propylene oxide copolymer **trimethylolpropane** ether,
 polymers with diamines, **polyisocyanates** and polyols
 RL: USES (Uses)
 (rubber, reaction-injection molded, impact-absorbing)

L24 ANSWER 21 OF 26 CAPLUS COPYRIGHT 2003 ACS
 AN 1987:139247 CAPLUS
 DN 106:139247
 TI Preparation of urea and/or biuret group-containing **polyisocyanate**
 compositions and their use in the preparation of resins by the
isocyanate addition process
 IN Rasshofer, Werner; Paul, Reiner; Seel, Klaus; Weber, Christian
 PA Bayer A.-G., Fed. Rep. Ger.
 SO Ger. Offen., 39 pp.
 CODEN: GWXXBX
 DT Patent
 LA German
 IC ICM C08G018-12
 ICS C08L075-04
 CC 37-3 (Plastics Manufacture and Processing)
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|-------------------------------|------|----------|-----------------|----------|
| PI | DE 3516730 | A1 | 19861113 | DE 1985-3516730 | 19850509 |
| | AU 8656463 | A1 | 19861113 | AU 1986-56463 | 19860422 |
| | AU 575475 | B2 | 19880728 | | |
| | US 4703100 | A | 19871027 | US 1986-855296 | 19860424 |
| | EP 204141 | A2 | 19861210 | EP 1986-105862 | 19860428 |
| | EP 204141 | A3 | 19880928 | | |
| | EP 204141 | B1 | 19900919 | | |
| | R: BE, DE, FR, GB, IT, NL, SE | | | | |
| | CA 1248681 | A1 | 19890110 | CA 1986-507883 | 19860429 |
| | ZA 8603410 | A | 19861230 | ZA 1986-3410 | 19860507 |
| | JP 61255924 | A2 | 19861113 | JP 1986-104002 | 19860508 |
| | BR 8602074 | A | 19870106 | BR 1986-2074 | 19860508 |
| | ES 554758 | A1 | 19870416 | ES 1986-554758 | 19860508 |
| PRAI | DE 1985-3516730 | | 19850509 | | |

AB The title compns., having NCO content 0.7-45%, are prepd. by the reaction
 of org. **polyisocyanates** with org. compds. contg.
isocyanate-reactive groups, at least part of the compds. having

primary and/or secondary amino groups. The compns. are stable liqs. which are esp. suitable for use in reaction-injection molding for the manuf. of moldings having d. 0.8-1.4. A mixt. of 1095 g MDI and 2015 g uretonimine-modified MDI deriv. having NCO content 30% was treated at 30.degree. with a mixt. of 800 g Jeffamine D 2000 and 42.6 g 65:35 mixt. of 2,4- and 2,6-diamino-3,5-diethyl-1-methylbenzene, heated slowly to 125.degree., and cooled to give a **polyisocyanate** compn. having viscosity 842 mPa.s and NCO content 19.9%. This compn. (150.7 parts) was used with 78 parts polyol (OH no. 28) prepd. by the alkoxylation of EtC(CH₂OH)₃ with methyloxirane and oxirane and 19.6 parts HOCH₂CH₂OH in the prepn. of reaction-injection moldings having d. 1119 kg/m³, tensile strength 28.2 MPa, elongation 76%, Shore D hardness 62, and flexural modulus 470.1 and 36.2 MPa at room temp. and 120.degree., resp.

- ST **isocyanate** liq reaction injection molding; polyurea polyurethane
 IT Urethane polymers, preparation
 RL: PREP (Preparation)
 (polyurea-, prepn. of, by reaction-injection molding, liq.
polyisocyanate compns. for)
 IT Polyureas
 RL: PREP (Preparation)
 (polyurethane-, prepn. of, by reaction-injection molding, liq.
polyisocyanate compns. for)
 IT Molding of plastics and rubbers
 (reaction injection, of polyurea-polyurethanes, liq.
polyisocyanate compns. for)
 IT 107-21-1DP, polymers with **polyisocyanates** and polyols
 25723-16-4DP, Polypropylene glycol **trimethylolpropane** ether,
 polymers with **polyisocyanates** and polyols 107120-02-5DP,
 polymers with **polyisocyanates** and polyols 107498-00-0DP,
 polymers with **polyisocyanates** and polyols
 RL: PREP (Preparation)
 (prepn. of, by reaction-injection molding)
 IT 101-68-8DP, polymers with polyols and polyamines 584-84-9DP, polymers
 with **polyisocyanates**, polyamines and polyols **2095-01-4DP**
 , polymers with **polyisocyanates**, polyamines and polyols
2095-02-5DP, polymers with **polyisocyanates**, polyamines
 and polyols 2855-13-2DP, Isophorone diamine, polymers with
polyisocyanates, polyamines and polyols 4455-27-0DP,
 1,3-Diazetidine-2,4-dione, **isocyanate** derivs., polymers with
 polyols and polyamines 9046-10-0DP, Jeffamine D 2000, polymers with
polyisocyanates, polyamines and polyols 13680-35-8DP, polymers
 with **polyisocyanates**, polyamines and polyols 19900-69-7DP,
 polymers with **polyisocyanates**, polyamines and polyols
 24800-44-0DP, Tripropylene glycol, polymers with **polyisocyanates**
 , polyamines and polyols 25322-69-4DP, Polypropylene glycol, polymers
 with **polyisocyanates**, polyamines and polyols 50467-20-4DP,
 polymers with **polyisocyanates**, polyamines and polyols
 RL: PREP (Preparation)
 (prepn. of, for reaction-injection molding)

L24 ANSWER 22 OF 26 CAPLUS COPYRIGHT 2003 ACS

AN 1987:51481 CAPLUS

DN 106:51481

TI Urethane rubber for reaction injection molding

IN Kojima, Hiroaki; Shibata, Shigeto; Narisawa, Shigeyuki

PA Asahi Glass Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08G018-65

ICS C08G018-50

CC 39-4 (Synthetic Elastomers and Natural Rubber)

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|-------|-----------------|-------|
| ----- | ---- | ----- | ----- | ----- |

PI JP 61190518 A2 19860825 JP 1985-29319 19850219
JP 06080107 B4 19941012
PRAI JP 1985-29319 19850219

AB The title rubbers were prepd. from a polymeric polyol (OH value 20-60) contg. low-mol.-wt. polyol (mol. wt. 62-240) 0.1-0.5, arom. diamine (mol. wt. 108-400) 0.01-0.1, and aminated polyether (mol. wt. 200-5000) 0.001-0.02 mol, at arom. diamine + aminated polyether content .gtoreq.0.02 mol, as the active H compd-chain extender component. Thus, a component contg. polyethylene polypropylene glycol (mol. wt. 4000) 82, polypropylene glycol bis(aminopropyl) ether (mol. wt. 400) 3, ethylene glycol 12, and 2-chloro-1,4-diaminobenzene 3 parts and MDI gave a cellular reaction injection molding, useful as an automobile bumper shell, with demolding time 50 s, bending modulus 2340 kg/cm², elongation 280%, and hot sagging (JIS K 6301) 25.1 mm.

ST urethane rubber reaction injection molding; automobile bumper urethane rubber foam; amine urethane rubber molding

IT Rubber, urethane, preparation

RL: PREP (Preparation)
(manuf. of, for reaction injection molding)

IT Vibration

(dampers, for automobiles, urethane rubber foams for)

IT Molding of plastics and rubbers

(reaction injection, urethane rubbers for, amine-contg.)

IT 101-68-8D, MDI, polymers with amines and polyols 107-21-1D, Ethylene glycol, polymers with amines, polyols, and **isocyanates**

615-66-7D, polymers with amines, polyols, and **isocyanates**

2095-01-4D, 2,6-Diamino-3,5-diethyltoluene, polymers with amines, polyols, and **isocyanates** **2095-02-5D**,

2,4-Diamino-3,5-diethyltoluene, polymers with amines, polyols, and **isocyanates** 9003-11-6D, Polyethylene polypropylene glycol,

triol derivs., polymers with amines, polyols, and **isocyanates** 9046-10-0D, Polypropylene glycol bis(aminopropyl)

ether, polymers with amines, polyols, and **isocyanates** 106398-91-8 106398-92-9

RL: USES (Uses)

(rubber, for reaction injection molding)

L24 ANSWER 23 OF 26 CAPLUS COPYRIGHT 2003 ACS

AN 1986:169890 CAPLUS

DN 104:169890

TI Polyamide-polyureas by the RIM process

IN Alberino, Louis M.; Regelman, Dale F.; Vespoli, Nancy P.

PA Dow Chemical Co., USA

SO U.S., 10 pp.

CODEN: USXXAM

DT Patent

LA English

IC ICM C08G018-30

ICS C08G018-32

NCL 528062000

CC 39-4 (Synthetic Elastomers and Natural Rubber)

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|-------------------------------|------|----------|-----------------|----------|
| PI | US 4552945 | A | 19851112 | US 1984-683457 | 19841219 |
| | CA 1235844 | A1 | 19880426 | CA 1985-495406 | 19851115 |
| | ZA 8508946 | A | 19870729 | ZA 1985-8946 | 19851121 |
| | BR 8506308 | A | 19860826 | BR 1985-6308 | 19851216 |
| | EP 185369 | A2 | 19860625 | EP 1985-116178 | 19851218 |
| | EP 185369 | A3 | 19880107 | | |
| | R: BE, DE, FR, GB, IT, NL, SE | | | | |
| | AU 8551442 | A1 | 19860626 | AU 1985-51442 | 19851218 |
| | AU 574874 | B2 | 19880714 | | |
| | JP 61145220 | A2 | 19860702 | JP 1985-285375 | 19851218 |
| PRAI | US 1984-683457 | | 19841219 | | |

AB Polyamide-polyureas are prepd. by the reaction of (A) an org. **polyisocyanate**; (B) an org. compd. having .gtoreq.2 active

H-contg. groups; and (C) 15-160 parts/100 parts B of a chain extender combination comprising a particular enamine and an arom. diamine, and optionally, an extender diol wherein the ratio of equivs. of A to total equivs. of B and C is 0.90:1-1.10:1. The polymers are useful for the prepn. of solid cast elastomers, solid and microcellular reaction injection molded (RIM) elastomers, and elastoplastics having Shore D hardness 30-80. The RIM products are particularly useful as automobile parts, e.g. bumpers, doors, etc. Thus, liquefied methylenebis(phenyl **isocyanate**) 135 (component A); SF 6503 100, an 80:20 mixt. of 1-methyl-3,5-diethyl-2,4-diaminobenzene and 1-methyl-3,5-diethyl-2,6-diaminobenzene 54, 1-(dibutylamino)-1-cyclohexene 6 (10 wt.% of extender) and UL-28 catalyst 0.4 wt. parts (component B) were metered into the mixing head of the RIM machine, molded at 150-300 .degree.F, and postcured. The RIM urethane elastomers had Shore D hardness 71, elongation 110%, flexural strength 6640 psi, and notched Izod impact 5.46 ft-lb/in.

- ST polyurea polyamide rubber molding; reaction injection molding urethane rubber; automobile part molded urethane rubber
- IT Enamines
RL: RCT (Reactant); RACT (Reactant or reagent)
(chain-extending addn. reaction of, to **polyisocyanates** in prepn. of polyurea-polyamide-polyurethanes)
- IT Automobiles
(bodies, polyamide-polyurea polyurethane elastomers for, reaction injection molded)
- IT Automobiles
(bumpers, polyamide-polyurea polyurethane elastomers, reaction injection molded)
- IT Rubber, urethane, preparation
Urethane polymers, preparation
RL: PREP (Preparation)
(polyamide-polyurea-, manuf. of, by reaction injection molding)
- IT Polyureas
RL: PREP (Preparation)
(polyamide-polyurethane-, manuf. of, by reaction injection molding)
- IT Polyamides, preparation
RL: PREP (Preparation)
(polyurea-polyurethane-, manuf. of, by reaction injection molding)
- IT Molding of plastics and rubbers
(reaction injection, of polyamide-polyurea urethane rubbers having good Shore hardness and heat resistance)
- IT 2981-10-4
RL: USES (Uses)
(chain extender, in prepn. of polyurea-polyamide-polyurethanes)
- IT **2095-01-4D**, polymers with **polyisocyanates** and polyols and polyamines and (dibutylamino)cyclohexene
RL: PROC (Process)
(reaction injection molding of)
- IT 101-68-8D, polymer with polyalcs. and **polyoxyalkylenetriol** and diaminobenzenes and (dibutylamino)cyclohexene 107-21-1D, polymers with **polyisocyanates** and polyols and polyamines and (dibutylamino)cyclohexene **2095-02-5D**, polymers with **polyisocyanates** and polyols and polyamines and (dibutylamino)cyclohexene 5873-54-1D, polymers with **polyisocyanates** and polyols and polyamines and (dibutylamino)cyclohexene 10468-25-4D, polymer with **polyisocyanates** and polyols and diaminobenzenes 24800-44-0D, polymers with **polyisocyanates** and polyols and diamines and (dibutylamino)cyclohexene 25265-71-8D, polymers with **polyisocyanates** and polyols and diamines and (dibutylamino)cyclohexene 72026-48-3D, polymer with **polyisocyanates** and diaminobenzenes and (dibutylamino)cyclohexene 93615-46-4D, polymers with **polyisocyanates** and polyols and diaminobenzenes and (dibutylamino)cyclohexene 101657-84-5 101677-75-2 101680-74-4
RL: USES (Uses)
(rubber, reaction injection molding of)

L24 ANSWER 24 OF 26 CAPLUS COPYRIGHT 2003 ACS

AN 1985:438178 CAPLUS

DN 103:38178

TI Compositions containing **isocyanate**-reactive groups for preparing microcellular or foamed moldings

IN Rasshofer, Werner; Meiners, Hans Jochen; Seel, Klaus; Wussow, Hans Georg

PA Bayer A.-G. , Fed. Rep. Ger.

SO Ger. Offen., 60 pp.

CODEN: GWXXBX

DT Patent

LA German

IC ICM C08G018-14

ICS C08G018-32; C08G018-34; C08G018-42; C08G018-48; C08J009-00;
C08L075-04

CC 37-6 (Plastics Manufacture and Processing)

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|------------|------|----------|-----------------|----------|
| PI | DE 3333464 | A1 | 19850411 | DE 1983-3333464 | 19830916 |
| | US 4645630 | A | 19870224 | US 1984-645734 | 19840830 |
| | EP 135867 | A2 | 19850403 | EP 1984-110590 | 19840906 |
| | EP 135867 | A3 | 19850515 | | |
| | EP 135867 | B1 | 19870722 | | |

R: DE, FR, GB, IT

PRAI DE 1983-3333464 19830916

AB Compds. contg. primary or secondary amino groups are treated with CO₂ or with CO₂ and water to prep. compds. which contain ammonium carbamate, carbonate, and bicarbonate groups and are useful with **polyisocyanates** and polyols in the manuf. of polyurea-polyurethane foams. Thus, the reaction of a mixt. of 12.6 g water and 700 g Jeffamine D 2000 with 20 g CO₂ gave a reaction product which (10 parts) was mixed with 67 parts polyol prepd. by the reaction of **trimethylolpropane** with propylene oxide and ethylene oxide, 23 parts of a mixt. contg. 35% 2,6- and 65% 2,4-diamino-3,5-diethyl-1-methylbenzene, and 0.2 part catalysts. This mixt. was used with 58 parts **polyisocyanate** (contg. 90% **diphenylmethanediisocyanate**) in the manuf. of a cellular polymer having d. 830 kg/m³, Shore D hardness 50, flexural modulus 260 MPa, tensile strength 12.1 MPa, and elongation 170%.

ST polyurea polyurethane foam prepn; carbonate polyol polyurea polyurethane; carbamate polyol polyurea polyurethane; ammonium carbonate polycarbonate urethane; amine carbamate carbonate polyurethane

IT Urethane polymers, preparation

RL: PREP (Preparation)

(polyurea-, prepn. of cellular, ammonium carbamate and carbonate derivs. of polyamines for)

IT Polyureas

RL: PREP (Preparation)

(polyurethane-, prepn. of cellular, ammonium carbamate and carbonate derivs. of polyamines for)

IT 75-56-9DP, reaction products with **trimethylolpropane**, carbamate and carbonate derivs., polymers with polyamines, **polyisocyanates**, and polyols 77-99-6DP, propoxylated, carbamate and carbonate derivs., polymers with polyamines, **polyisocyanates**, and polyols 101-68-8DP, polymers with polyamines and polyols 107-13-1DP, reaction products with amino polyethers, carbamate and carbonate derivs., polymers with polyamines, **polyisocyanates**, and polyols 107-21-1DP, polymers with polyamines, **polyisocyanates**, and polyols 110-63-4DP, polymers with dicarboxylic acids, polyamines, polyols, and **polyisocyanates** 124-04-9DP, polymers with polyamines, polyols, and **polyisocyanates** 124-38-9DP, reaction products with polyamines and water, polymers with polyamines, polyols, and **polyisocyanates** 2095-01-4DP, polymers with polyamines, **polyisocyanates**, and polyols 2095-02-5DP, polymers with polyamines, **polyisocyanates**, and polyols 7732-18-5DP, reaction products with amines and carbon dioxide, polymers with polyamines, **polyisocyanates** and polyols 9003-11-6DP, polymers with

polyamines, **polyisocyanates**, and polyols 9016-87-9DP, polymers with polyamines and polyols 9046-10-0DP, reaction products with carbon dioxide and water, polymers with polyamines, **polyisocyanates**, and polyols 9048-90-2DP, carbamate and carbonate derivs., polymers with polyamines **polyisocyanates**, and polyols 24800-44-0DP, polymers with polyamines, **polyisocyanates**, and polyols 25265-71-8DP, polymers with polyamines, **polyisocyanates**, and polyols 39423-51-3DP, reaction products with carbon dioxide and water, polymers with polyamines, **polyisocyanates**, and polyols 51178-86-0DP, polymers with polyamines, **polyisocyanates**, and polyols 52624-57-4DP, polymers with polyamines, **polyisocyanates**, and polyols

RL: PREP (Preparation)
(manuf. of cellular)

L24 ANSWER 25 OF 26 CAPLUS COPYRIGHT 2003 ACS

AN 1984:492086 CAPLUS

DN 101:92086

TI Microcellular molding compositions

IN Schaefer, Walter; Meiners, Hans Joachim; Seel, Klaus; Reichmann, Wolfgang; Wagner, Kuno; Findeisen, Kurt

PA Bayer A.-G., Fed. Rep. Ger.

SO Ger. Offen., 35 pp.

CODEN: GWXXBX

DT Patent

LA German

IC C08G018-14

CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 35

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---------------------------|------|----------|-----------------|----------|
| PI | DE 3242925 | A1 | 19840524 | DE 1982-3242925 | 19821120 |
| | US 4499038 | A | 19850212 | US 1983-549040 | 19831107 |
| | EP 109605 | A2 | 19840530 | EP 1983-111117 | 19831108 |
| | EP 109605 | A3 | 19861203 | | |
| | EP 109605 | B1 | 19890322 | | |
| | R: BE, DE, FR, GB, IT, SE | | | | |
| | CA 1213287 | A1 | 19861028 | CA 1983-440629 | 19831108 |
| | JP 59102916 | A2 | 19840614 | JP 1983-216409 | 19831118 |
| | JP 04014694 | B4 | 19920313 | | |
| | ES 527403 | A1 | 19840801 | ES 1983-527403 | 19831118 |
| PRAI | DE 1982-3242925 | | 19821120 | | |

AB Reaction-injection moldable microcellular polyurea-polyurethanes are manufd. from **polyisocyanates**, polyethers contg. hydroxy, amino, and ammonium carbamate groups with mol. wt. 400-10,000, and difunctional crosslinking-chain-extending compds. contg. hydroxy and(or) amino groups with mol. wt. 18-400. Thus, an addn. product (mol. wt. 2000) of propylene oxide and propylene glycol reacted with NH₃ in the presence of Raney Ni and H to give a product with NCO group-reactive end groups of >99 equiv. percent primary amino groups and <1 equiv. percent secondary hydroxy groups, which reacted with CO₂ to give a product with NCO group-reactive groups of 53 equiv. percent of ammonium carbamate groups. A mixt. contg. this product 55, poly(oxyethylene)-poly(oxypropylene) **trimethylolpropane** ether (OH no. 28) 18.3, 65:35 1-methyl-3,5-diethyl-2,4-phenylenediamine-1-methyl-3,5-diethyl-2,6-phenylenediamine mixt. 22, Bu₂Sn dilaurate 0.14, 1,4-diazabicyclo[2.2.2]octane 0.1, and a stoichiometric tall-oil fatty acid 3-dimethylamino-1-propylamine salt 4.5 parts was mixed with 40 parts glass fiber (length 0.2 mm) and 60.5 parts diphenylmethane 4,4'-**diisocyanate**-tripropylene glycol copolymer (NCO content 23%) in a reaction-injection molding machine to give a molding with d. 1070 kg/m³, tensile strength 28 MPa, breaking elongation 285%, Shore D hardness 56, and bending modulus 8077 MPa.

ST polyurea polyurethane reaction injection moldable; ammonium carbamate polyether polyurea polyurethane

IT Urethane polymers, preparation

RL: USES (Uses)
(polyurea-, manuf. of reaction-injection moldable, from ammonium carbamate group-contg. polypropylene glycol and diamines and **polyisocyanates**)

IT Polyureas

RL: USES (Uses)
(polyurethane-, manuf. of reaction-injection moldable, from ammonium carbamate group-contg. polypropylene glycol and diamines and **polyisocyanates**)

IT 101-68-8D, polymers with ammonium carbamate group-contg. polypropylene glycol and polyols and diamines **2095-01-4D**, polymers with ammonium carbonate group-contg. polypropylene glycol and polyols and **polyisocyanates 2095-02-5D**, polymers with ammonium carbamate group-contg. polypropylene glycol and polyols and **polyisocyanates 24800-44-0D**, polymers with ammonium carbamate group-contg. polypropylene glycol and diamines and **polyisocyanates 25322-69-4D**, ammonium carbamate derivs., polymers with polyols and diamines and **polyisocyanates 52624-57-4D**, polymers with ammonium carbamate group-contg. polypropylene glycol and diamines and **polyisocyanates**
RL: USES (Uses)
(reaction-injection moldable)

L24 ANSWER 26 OF 26 CAPLUS COPYRIGHT 2003 ACS

AN 1983:506901 CAPLUS

DN 99:106901

TI Use of liquid, cold-hardening polyurethane-forming components for corrosion-inhibiting, wear-resistant coatings on metal and plastic surfaces and articles as well as brick and concrete

IN Truemmelmeyer, Gerhard; Ruprecht, Hans Dieter

PA Bayer A.-G. , Fed. Rep. Ger.

SO Ger. Offen., 33 pp.

CODEN: GWXXBX

DT Patent

LA German

IC B05D007-26; B05D007-02; B05D007-16; C09D003-72; C09D005-08

CC 42-10 (Coatings, Inks, and Related Products)

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|-------------------------------|------|----------|-----------------|----------|
| PI | DE 3148838 | A1 | 19830623 | DE 1981-3148838 | 19811210 |
| | EP 81729 | A1 | 19830622 | EP 1982-110969 | 19821127 |
| | EP 81729 | B1 | 19870729 | | |
| | R: BE, DE, FR, GB, IT, NL, SE | | | | |
| | CA 1211885 | A1 | 19860923 | CA 1982-416754 | 19821201 |
| | US 4716210 | A | 19871229 | US 1982-446082 | 19821201 |
| | JP 58104921 | A2 | 19830622 | JP 1982-214812 | 19821209 |
| | JP 63044772 | B4 | 19880906 | | |
| | ZA 8209059 | A | 19830928 | ZA 1982-9059 | 19821209 |
| PRAI | DE 1981-3148838 | | 19811210 | | |

AB The title compns., which gel very rapidly when applied, contain mobile mixts. of polyoxyalkylene polyols and small amts. of low-melting, readily sol. arom. diamines and tertiary amine catalysts as A components, and liq. **polyisocyanates** as B components. Thus, 100 parts component A

[16:80:4 acrylonitrile-polyethylene-polypropylene glycol **trimethylolpropane** ether (mol. wt. 4800)-styrene graft polymer (OH no. 28) 80, 56:22:22 4,4'-methylenebis(2-ethyl-6-isopropylaniline)-4,4'-methylenebis(2,6-diethylaniline)-4,4'-methylenebis(2,6-diisopropylaniline) 20, and triethylene diamine 0.1 part] and 74 parts component B [prepolymer from 62 parts phosgenated PhNH₂-HCHO condensate and 100 parts polypropylene glycol (mol. wt. 2000); 10% NCO] were mixed and sprayed, gelling in 15 s without drop formation on metal surfaces to give coatings with d. 800-1000 kg/m³, Shore A hardness 65-85, tensile strength 8-12 MPa, elongation 400-800%, and cut growth resistance 14-25 KN/m.

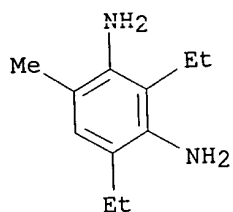
ST polyurethane coating moisture curable; anticorrosive coating polyurethane; crosslinking moisture polyurethane coating

IT Coating materials

(anticorrosive, cold-curable polyurethanes as)
IT Amines, uses and miscellaneous
RL: USES (Uses)
(di-, aryl, chain extenders, for cold-curable polyurethane coatings)
IT 2095-01-4 2095-02-5 13680-35-8 19900-69-7
50467-20-4 87079-89-8 87079-90-1
RL: USES (Uses)
(chain extenders, for cold-curable polyurethane coatings)

=>

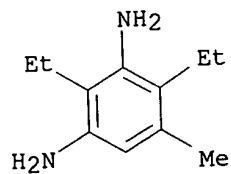
L13 ANSWER 38 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 2095-02-5 REGISTRY
CN 1,3-Benzenediamine, 2,4-diethyl-6-methyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Toluene-2,4-diamine, 3,5-diethyl- (6CI, 7CI, 8CI)
OTHER NAMES:
CN 1,3-Diamino-2,4-diethyl-6-methylbenzene
CN 1-Methyl-3,5-diethyl-2,4-diaminobenzene
CN 2,4-Diamino-3,5-diethyltoluene
CN 3,5-Diethyl-2,4-diaminotoluene
CN 3,5-Diethyltoluene-2,4-diamine
FS 3D CONCORD
MF C11 H18 N2
CI COM
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, CHEMLIST, IFICDB,
IFIPAT, IFIUDB, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

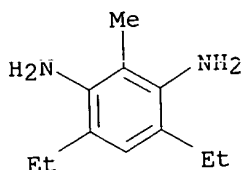
104 REFERENCES IN FILE CA (1962 TO DATE)
55 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
105 REFERENCES IN FILE CAPLUS (1962 TO DATE)
4 REFERENCES IN FILE CAOLD (PR

L13 ANSWER 5 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 170153-38-5 REGISTRY
CN 1,3-Benzenediamine, 2,4-diethyl-5-methyl- (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C11 H18 N2
CI COM
SR CA



**PROPERTY DATA AVAILABLE IN THE 'P

L13 ANSWER 39 OF 40 REGISTRY COPYRIGHT 2003 ACS
RN 2095-01-4 REGISTRY
CN 1,3-Benzenediamine, 4,6-diethyl-2-methyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Toluene-2,6-diamine, 3,5-diethyl- (6CI, 7CI, 8CI)
OTHER NAMES:
CN 1-Methyl-3,5-diethyl-2,6-diaminobenzene
CN 2,6-Diamino-3,5-diethyltoluene
CN 3,5-Diethyl-2,6-diaminotoluene
CN 3,5-Diethyl-2,6-toluenediamine
FS 3D CONCORD
MF C11 H18 N2
CI COM
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, CHEMLIST, IFICDB,
IFIPAT, IFIUDB, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

80 REFERENCES IN FILE CA (1962 TO DATE)
44 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
80 REFERENCES IN FILE CAPLUS (1962 TO DATE)
3 REFERENCES IN FILE CAOLD (PRIOR TO 1967)